September/October 1986

# PRACTICAL WINERY

Grapegrowing and Winemaking Review

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CONTENTS

# PRACTICAL WINERY

## Grapegrowing and Winemaking Review

SEPTEMBER/OCTOBER 1986 VOLUME VII, NO. 3

## Features

### WINERY FINANCE

16 Strategic Business Plans, Part III ........ *Judy Mickle & Michael Lehman*

### WINE & FOOD

18 Pre-Selected Wines Successful at Nepenthe ........ *Joe Tarantino*

### VARIETAL REPORT

22 Vidal: Versatility from Good Breeding
34 Vidal Tasting Notes

### VITICULTURE

39 Managing Vidal Blanc Grapevines ........ *Gordon S. Howell*

### PURCHASING GUIDE

43 What's Available in Computer Software? ........ *Susan Malone*

## Departments

### MARKETING

8 In the Cellar ........ *Jake Lorenzo*
10 The Wine Retailer ........ *Stan Hock*

### WINERY DESIGN

13 Winery Water & Waste ........ *David Storm*
The Wine Lawyer ........ "On Vacation" ........ *R. Corbin Houchins*
46 Index of Advertisers

*Editor and Publisher:* Don Neel
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Menu Recommendations Sell Wine
See page 18.
photo by Mabel Lernoud

Vidal
See page 22.
photo by Gordon S. Howell

Computer Software Applications
See page 43.

**Cover:**
Created by Fred Lyon at Robert Pepi Winery, Oakville, CA

*"A glass of wine is a great refreshment after a hard day's work."* Ludwig von Beethoven (1770–1827)

# “Flow Rates Twice as High… Product Loss Cut in Half …Better Quality”

Tom Eddy
Director of Winemaking
The Christian Brothers
St. Helena, California

That’s what happened when Christian Bros. installed a Westfalia CA 365 Decanter and a Westfalia SA 100 Clarifier. As a result, this famous winery was able to eliminate filtering of juice to stop fermentation.

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# *Free Run*

## LETTER TO THE EDITOR

**Dear Editor:**

Thanks to *PRACTICAL WINERY* and Mike Marcley for the in-depth 'Close Vine Spacing: Pros and Cons Part I' (May/June 1986). Pat and Joe Campbell at Elk Cove Vineyards, along with some fellow winegrowers in Oregon, led the way in the early 1970s to tighter vine spacing and vertical curtain trellising with catch wires. Most of the newer vineyards (including Rex Hill Vineyards) owe a debt of gratitude to them.

Continued success to *PRACTICAL WINERY.* Besides your coverage of the most topical stories in the wine industry, I think your readers recognize your growth in terms of journalism. Thanks again.

Sincerely,
David Reiner Wirtz, Winemaker
Rex Hill Vineyards, Newberg, OR

**Dear Editor:**

I congratulate you on the fine series prepared by Price Waterhouse on Strategic Business Plans. The stories have excellent content and are well-prepared. I would like to see the series continue.

Sincerely,
Jack Cakebread
Owner, Cakebread Cellers
Rutherford, CA

## UPCOMING EVENTS

**November 23—29, 1986**

### 19th International Viticultural & Oenological Congress

The theme of this year's Congress is 'Winegrowing in the Year 2000', and will revolve principally around the study of scheduled trends in international markets, together with the possibility of controlling their development.

The theme will be studied in its viticultural aspects, as well as at the oenological and economic levels. The following subtopics will be discussed:

#### Viticulture

Control of wine production, especially that of table grapes: Role of plant material (selection of vine-plants, creation of new varieties); role played by soil; and role played by cultivation techniques.

#### Oenology

The oenology of tomorrow:

A. Technology and biotechnology applied to extracting maximum benefit from the vine.

B. Quality control: Objective methods of evaluating organoleptic characteristics, including sensorial evaluation (methods, statistical interpretation) and analytical evaluation; and multidimensional analysis techniques and the statistical interpretation of their results.

#### Economy

Control of the economic sector of the wine industry:

A. Legal system and system for control of vine plantings.

B. Conversion and restructuring of the wine regions with a view to achieving good quality in a balanced market.

C. Control of products at every point along the chain of the vine, of wine, and of their products.

D. Future consumption prospects and development of world trade.

Technical tours of Chile's winegrowing regions are offered following the Congress. For information on working meetings of the Congress, write: Sr. Alejandro Hernandez, Technical Coordinator, OIV Congress, Av. Bulnes 140, Santiago, Chile, or M. Robert Tinlot, Director, 11 rue de Roquepine, F. 75008, Paris, France. For information on registration, hotel reservations, and technical tours, write: Senora Gabriela Rosay, Organizacion TRES, P.O. Box 16.522, Santiago 9, Chile.

**November 6–8, 1986**

### American Wine Society

The American Wine Society will hold its 19th Annual National Conference at the Omni International Hotel, Baltimore, MD. The conference will include wines of Maryland, America, and the world.

The conference agenda will cover four principal categories: Winemaking, Wine Evaluation, and Wine and Food. Winemaking topics will include Wine Blending for Improvement, Fining Agents, and an Ideal Backyard Winery. Wine Evaluation subjects will include a discussion on Bordeaux Futures, Sensory Identification of Wine constituents, and Basics of Wine Evaluation and Scoring. Wine and Food topics will include talks on Wine and Mushrooms, Spices and Wine, and Wine Saucery. Tasting will include wines of Germany and Switzerland, as well as California, East and West Coast wines, and aperitifs.

Additional information and registration can be obtained from the Conference Registrar, C. Edward Walter, 6431 Brass Knob, Columbia, MD 21044, or by phone, (301) 997-4251.

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82
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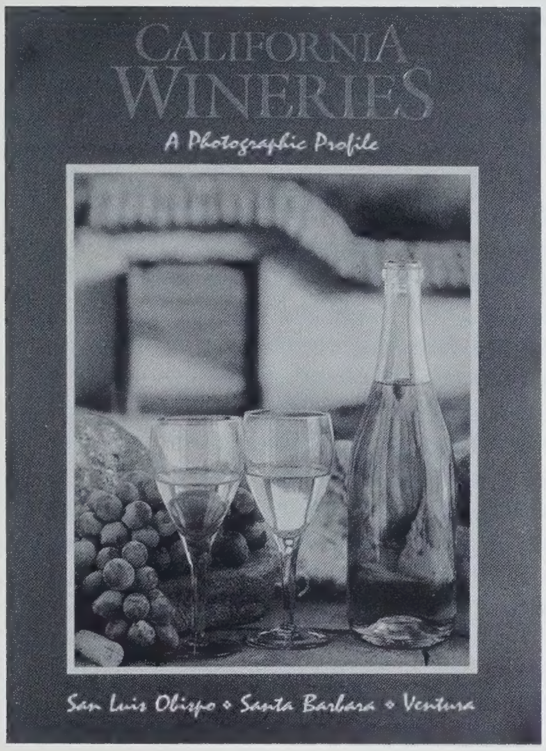
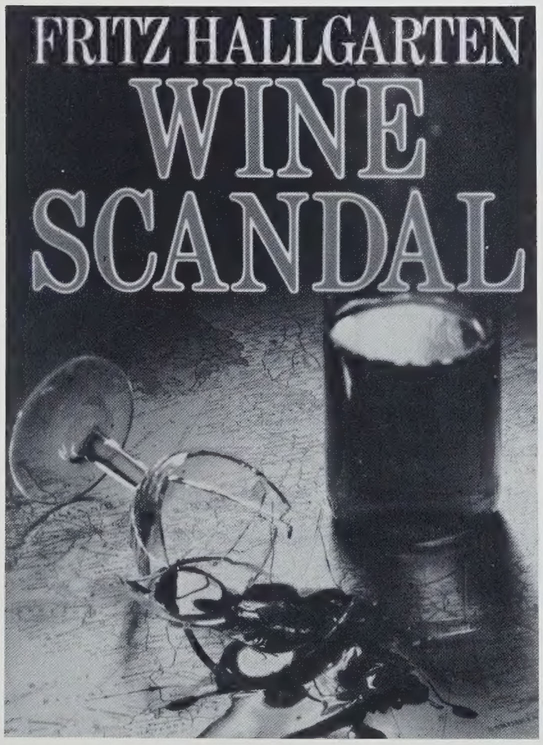


***California Wineries*** *Vicki Leon*
*Blake Publishing, Inc.; San Luis Obispo, CA; 128 pages; $13.95*

This beautifully-photographed book contains accompanying text on the wineries of the San Luis Obispo, Santa Barbara, and Ventura areas. The text provides an in-depth and humanistic look at the owners and winemakers of these rapidly-expanding winegrowing regions. Maps of each area are included, as well as regional highlights covering topics other than wine, such as local flora and fauna. It also includes a good resource index. A must for any oenophile's coffee table, and especially for out-of-state wine salespeople who can't visit the wineries personally. This book is available from Blake Publishing, 2222 Beebee Street, San Luis Obispo, CA 93401, (805) 543-6843 or (800) 792-6946.

***Wine Scandal*** *Fritz Hallgarten*
*George Weidenfeld & Nicolson, Ltd; Great Britain; 183 pages; $18.95*

This informative book investigates the history of unethical winemaking practices, from growing to selling, throughout Europe and the U.S. The author, an attorney specializing in wine law, covers in scrupulous detail the origins of these practices, whether it be greed, ignorance, or a combination of the two. This book can help serious wine people to become more aware of labels and the product they are purchasing. It is available from The Wine Appreciation Guild, 155 Connecticut St., San Francisco, CA 94107, (800) 231-WINE or (800) 242-9462.



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# In The Cellar

Jake Lorenzo

*Managing Editor's note: Ever since Jake decided to let us write our own editor's notes, the editor and I have debated who should do the actual writing. I lost.*

*Until I read this column, I had considered myself a fairly serious wine drinker. But now I realize that those damning bottles of wine cooler in my fridge discredit any such notion. The one comfort left to me is that, if I can't be serious, I can at least have fun.*

*Although maybe I pushed things a bit far when I showed up in Oregon recently for the American Pinot Noir Conference with an ice chest full of California Cooler. Oregon winemakers do not appreciate a product called California Cooler. At least I didn't leave the empties by the side of the road.*

Humor is an essential ingredient in the life of any good private investigator. Take my kind of work too seriously and it can make you miserable. The greed and sleaze we often wallow in clogs the throat. It takes a healthy and heartfelt laugh to clear the breathing tubes.

Humor, at least a sense of it, is a good thing to pack when you take a trip. I just got back from two weeks on the road. Moving from town to town through airport after airport is exhausting work. Road work makes me lethargic, too tired to think. When I'm too tired to think, I pursue mindless activities: I watch television.

Watch television for any length of time and you'll see lots of commercials. I must admit something. Bartles and Jaymes crack me up. I like those guys. I think their commercials are fun and non-threatening. They have attracted a huge group of new consumers into the wine market. The Bartles and Jaymes producer is making lots and lots of money.

Watching those two good old boys sit on that there porch and talk about wine coolers fascinated me. My detective instinct was piqued. (That's the trouble with mindless activity; an active mind won't allow it.) Questions popped into my head.

Who the hell is drinking all these millions and millions of cases of wine coolers? Why the hell don't I know one single person who has a bottle sitting in his refrigerator? What does the stuff taste like, anyway?

All detective work is simple hard labor. Find the leads. Follow the leads. Make the obvious conclusions.

My questions led me to the nearest liquor store, where I bought a pile of wine coolers. I sat in my air-conditioned hotel room with the ugly earth-toned prints on the wall, and I drank wine coolers. Well, I tried to drink them. Wine coolers taste to me like health food soda pop that's gone bad.

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The best that can be said for wine coolers is that they don't taste so bad if they are really, really cold, especially if you're really, really hot and thirsty. Now, what does that remind you of? Right, commercial American beer.

As all the grocery store owners will tell you, beer drinkers are the same guys who are buying wine coolers. Of course those macho guys don't drink the sissy stuff. No, they buy it for their girlfriends.

Another thing you learn about the detective business is to take your leads wherever you find them. I found myself at home talking to Jakelyn about my trip. Just for the heck of it, I asked her about wine coolers. Jakelyn says that everyone in her high school drinks wine coolers at the huge parties held at their parents' houses when the parents go out of town. Jakelyn had a sly smile on her face and went to her room.

I waited a few minutes, and went down to rummage through the garbage. It must have been a hell of a party! Four trash cans were filled with empty beer cans and dozens of wine cooler bottles. I grabbed my keys and rushed to the wine cellar. It was untouched. I selected an old bottle and went up to the porch to ponder my leads.

Obviously, I concluded the following:

1) Wine coolers are an innocuous, quaffable beverage that, when taken in large amounts, will give you a buzz.

2) People drinking wine coolers are not the same people drinking fine wines.

3) For the most part, people drinking wine coolers are people who have no past history of wine appreciation at all.

4) If all of those people currently drinking wine coolers ever decide to move on to fine wines, there won't be enough good wine to supply them with drink for even one of their more sedate parties.

Hmmm. Jake, I believe you're on to something.

Let's forget about wine coolers. Let's get back to a sense of humor. Bartles and Jaymes are funny. Their product must be fun. That guy Bruce Willis is crazy on the 'Moonlighting' TV show. Now he's crazy on Seagrams wine cooler commercials. No one who's crazy can be serious. That product must be fun. California Cooler is surfing and wipe outs and girls in bikinis. Must be fun, right?

Not only is it fun, but it's UNsophisticated. It's modern. It's MTV video hipness. It's no different from Coke or Pepsi. It's just another great American drink. And it's selling millions and millions of cases to millions and millions of people who don't know how to take a cork out of a bottle.

What if one of the big boys, say Gallo or Seagrams or even Almaden stopped trying to make their jug wines sound so sophisticated? What if one of the big guys made their jug wines sound like . . . fun? What if they got away from medals and classical music and soft lighting and went to some ass-kicking, super slick, rock 'n roll fun-time videos to sell their jug wines?

What if Bruce Willis filled a Bartles and Jaymes wine cooler bottle with Taylor California Cellars chablis and soda water and Bartles and Jaymes couldn't tell the difference? What if Bartles and Jaymes said that sometimes they just like to sit on their porch and drink good old jug wine?

*What if good old jug wine becomes just one more great American drink like Coke or Pepsi or wine coolers?*

The implications boggle the mind. Wine at every party. Wine on every table. Wine with every meal. Wine being treated just like any other great beverage, just like it is in most of the civilized countries in the western world.

Get the public to drink wine as a regular, good-time beverage and they will move themselves on up, drinking every last drop of white Zinfandel as well as every bottle of Cabernet Sauvignon, Chardonnay, Pinot Noir and Fumé Blanc.

Get just one of the big boys to pursue what's staring them in the face. Get just one to make wine fun, and then stand back and watch the rest scramble.

It's only a matter of time before one of the big boys tries it. They have an incentive, and the incentive is money—lots of it. If they're making money on coolers, imagine how much they can make on jug wine.

Listen, big boys—go for it. It will make you rich beyond your wildest dreams, and it will drag the rest of the industry along on your coattails. Do your own research, but remember you heard it here first.

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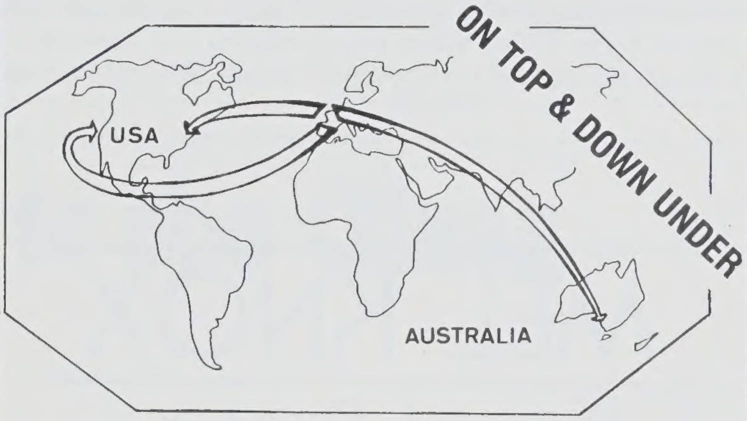

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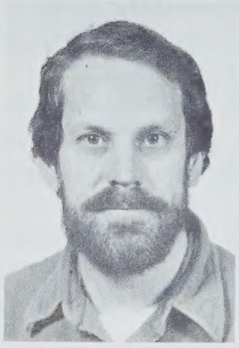

## The Wine Retailer

Stan Hock

# Wine Advertising

According to the Oxtoby-Smith study, a marketing survey financed by the Winegrowers of California, mass-media advertising is worthless for all but the largest of California's wine producers. This conclusion is based on the study's finding that only one in ten wine drinkers pays any attention to wine ads—or articles about wine, for that matter—preferring to rely for buying advice on friends and favorite retailers. The study suggests that medium-sized premium producers would be better off focusing their resources and energies on promotional activities keyed to retailers and restaurateurs.

Intrigued by this proposition, I contacted marketing and public relations personnel at a number of large and medium-sized wineries to see if their views on advertising had been affected by the gloomy picture Oxtoby-Smith paints of its effectiveness.

Surprisingly, no one I talked to seemed the least bit concerned by the study's conclusions, and several people challenged their validity, claiming it is well-known in advertising circles that most people, when polled, are loath to admit that they're influenced by advertising.

More to the point, my informants told me, are the factors that lead some wineries to advertise while others of a similar size don't; why, of the former group, some prefer print advertising and others radio or TV; and why the underlying themes of wine advertising may be changing, in response to a static wine market.

### To Advertise or Not To Advertise

It's obvious that only wineries with substantial production can afford to advertise, and that only the largest can even contemplate advertising on television, the most effective advertising medium. But why do some wineries rely on print advertising as their primary promotional activity, while others eschew it altogether?

The marketing director of one of California's most famous wineries—one that does no advertising at all—told me: "If you need to advertise, it means you have wine to sell, and if you have wine to sell, it must not be very good." That's a simplistic and somewhat cavalier explanation of why wineries advertise, but the first part of his assertion certainly provides part of the answer.

The basic reason wineries advertise is to establish, or re-establish, their brand. A good example of this is Weibel, a family-owned winery in San Jose, CA. Over half of Weibel's million-case production is sold as private-label wine (the winery produces most of northern California's 'house label' sparkling wines) and, since this has been the backbone of the winery's business for most of its 50-year history, the Weibel family, until recently, felt little need to promote their own brand.

In 1979, however, Fred Weibel decided to establish his winery as a premium producer of varietal wines. Because the winery's identity had been submerged in the private label business, he knew he needed to invest time and money re-establishing the Weibel brand name. Toward this end, the winery hired a marketing firm, which devised a series of television and radio ads featuring Zsa Zsa Gabor, ads which touted the appeal of Weibel's easy-drinking Green Hungarian and white Zinfandel.

Last year, concluding that the ad campaign had accomplished its primary goal of acquainting consumers with the Weibel name, the winery brought its marketing back in-house and is now relying on print ads in mass-circulation publications like *Sunset, Bon Appétit*, and *Better Homes and Gardens*. "We feel that people do notice wine ads," says Linda Tangeman, the winery's public relations manager, "and it [print advertising] is important to us, because Weibel is still establishing an identity in consumers' minds, and we think it helps us to do that."

Christian Brothers is another winery using mass-media advertising to re-establish brand identity. In skillfully-produced television spots that have been appearing frequently of late, key winery personnel expound on the long history and good works of the Christian Brothers brand (the winery finances the various educational institutions run by the Christian Brothers order), while closeup shots of vintage-dated varietal wines convey the fact that the winery is changing to stay abreast of the times.

Another reason wineries advertise is to support major increases in production. Korbel, California's largest producer of *méthode champenoise* sparkling wine, has increased its production significantly in recent years to over one million cases. Sales have risen too—by 16% in 1985 and 17% through the first six

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months of 1986 – giving Korbel a 68% share of the rapidly expanding California *méthode champenoise* sparkling wine market.

This growth would not have been possible – or profitable – without a multi-million dollar national ad campaign, now four years old, that is the largest by far of any California sparkling wine producer and, in fact, ranks second only to Gallo among all California wineries. Korbel ads appear regularly in a wide variety of mass-circulation publications, among them *Time, Newsweek, Playboy, People, Cosmopolitan, GQ, Sports Illustrated,* and *Architectural Digest*, as well as in all the most important wine and food magazines. Not surprisingly, Michelle Hunter, Korbel's director of communications, states emphatically, "We have no doubts about the value of our advertising."

A third, bottom-line motive for wine advertising is "just to keep the label out there where people see it occasionally," according to Carolyn Martini, president of Louis M. Martini Winery in Napa, CA. "It's not the most effective way of promoting your product," Martini says, "but it has a subliminal effect." Wineries that advertise simply to maintain exposure tend to be medium-sized operations that advertise on a limited basis, usually in local newspapers and regional magazines like *Focus, California*, and *Sunset*.

Finally, smaller wineries that can't afford widespread advertising, and larger ones that don't find it cost-effective, sometimes place ads in local wine publications as a way of supporting them, repaying the people who are supporting the wine industry in general. Wineries like Fetzer, which normally eschews print ads, will advertise in this way, as will smaller wineries like Raymond or Clos du Bois. Many of these 'spot ads' focus on special events or awards the wineries have won, rather than on more general brand promotion.

### Advertising vs. Public Relations

Wine marketers split into two camps on the issue of advertising. Some are firm believers in its efficacy and rely heavily on it to promote their product, while others are fundamentally skeptical of its effectiveness and prefer to focus their energies and resources on public relations work – winery-based promotional activities and the aggressive dissemination of point-of-sale (p.o.s.) material.

"Most of our ad budget goes for p.o.s.," says David Hansmith of Fetzer Vineyards in Mendocino County, CA. "We think it's more effective than generic print advertising, where you have to be there every other issue." Carolyn Wente, of Wente Brothers in Livermore, CA, agrees with Hansmith that winery money is "better spent in the marketplace, on p.o.s. and other promotional activities."

Michaela Rodeno, vice-president for marketing at Domaine Chandon in Napa, is another believer in the benefits of solid public relations work, especially when a winery's main product, like Chandon's sparkling wine, lends itself so well to promotional events at the winery. (Chandon's restaurant is a big plus in this regard, too.) "We rely on public relations more than anything; it's the most effective," Rodeno insists, adding that Chandon's print advertising amounts to only 20% of the winery's marketing budget.

Rodeno has an interesting theory about advertising vs. public relations. The latter, more personal approach, she suggests, is more likely to be employed by family-run wineries, whereas a

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winery owned by a corporation may be more inclined to indulge in costly advertising. This is because, in the corporate scheme of things, advertising is simpler and less labor-intensive, and its effectiveness is accepted as an article of faith.

Ironically, Rodeno's argument is undermined by looking at California's two largest sparkling wine producers: her own Chandon, owned by the giant Moet & Hennessey corporation, relies heavily on public relations, while the family-owned Korbel has the second largest budget for advertising in the industry.

### Visual vs. Aural

Among wine marketers whose wineries do engage in significant advertising, there is a division of opinion over the relative merits of print and radio advertising. Larger wineries like Beaulieu and Beringer have been successful with radio ads that reach millions of big-city commuters each day, but, although these obviously command a much larger audience than print ads possibly can, that audience is far less defined and pre-selected than is the case with well-planned magazine advertising.

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Those who favor radio advertising emphasize its ability to reach the potential consumer directly, avoiding the uncertainties of print advertising, which inevitably reaches only a percentage of its target audience. But radio advertising is not appropriate for many wineries. Aside from the higher costs involved, a radio advertiser must fit a certain profile.

As Rodeno points out, it is essential for a winery to have an easily pronounceable, already recognizable name in order for radio ads to be effective. (Beringer and 'B.V.' certainly qualify on this count). And some winery people think that the visual impact of an eye-catching print ad is more profound and lasting than the fleeting impressions derived from a brief radio spot.

### The Target: Connoisseur or Everyman?

There's been a lot of breastbeating in the wine industry lately about the failure of domestic producers to appeal to so-called 'average Americans'. Most of the wine sold in this country is consumed by a small percentage of the population, and critics attribute this fact, in part at least, to wine's image as a beverage of the elite.

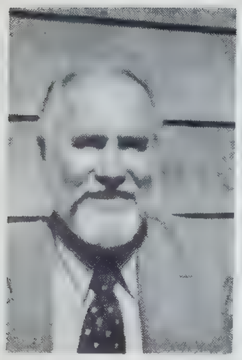
Even a cursory examination of wine advertising, on TV and in print, tends to support this hypothesis. We see snobby, clubby winetasters engaged in the arcane rituals of wine evaluation, beautiful people sipping wine from expensive crystal and other images cut from the same cloth. If wineries want to reach middle America, should they not redesign the themes of their ads to move away from these scenes of upper-class indulgence?

Some producers obviously think so. The Beaulieu radio ads, featuring winery president Legh Knowles, stress the simple, flavorful qualities of B.V.'s less expensive wines, their reliability and affordability. (In the ads, Knowles explicitly knocks the pretentiousness and priciness of many California and European wines). Weibel's ads, built around the trademarked motto 'trust your taste', depict an average-looking, casually-dressed family drinking Weibel wines with their evening meal. "Our whole thrust," says Tangeman, "is to reassure the consumer that what they like is what they should drink."

But not all wine advertisers are abandoning the glittery, romantic images long associated with wine. Hunter says her winery continues to be committed to an advertising campaign, based on the trademarked motto 'uncork the magic', that depicts attractive, elegantly-dressed couples enjoying Korbel wines in romantic settings.

The underlying strategy of the Korbel campaign, which is to encourage people to identify with the beautiful men and women in their ads and imagine themselves drinking Korbel champagne on the beach or in the forest, certainly embodies a classic American theme: the desire of Americans to ascend into the socioeconomic classes above them.

Differences of opinion among wine marketers about what a wine ad should look like and what message it should convey merely reflect the more fundamental debate about the value of wine advertising itself. In the final analysis, a winery's view of advertising will always reflect the solidity of its brand identity, its position in the marketplace and the orientations of its ownership, whether a slick multi-national corporation, or a family of friendly farmers.



# Winery Water & Waste

D.R. Storm, Ph.D., P.E.

### *Wine Labels*

*This lead-in has only a slight connection to the mainstream of thought in this column. Here are my limited views on the current crop of wine labels.*

*Scanning the shelves in a wine shop these days can be almost as uplifting for the soul as a visit to the Impressionist Exhibit currently in San Francisco, or the National Gallery of Art. The old pen-and-ink sketches of vineyards, barrels and cellars have been replaced in a high percentage of cases with 4-color artist's renderings, painted exclusively for the winery, as label art.*

*These not only contain eye-catching imagery and color, but incorporate clever lithography and creative graphic design. Even the labels which do not contain watercolor prints have pseudo-3-dimensional features, such as gold-embossed logos, assorted family or vineyard crests, and lettering. Wine labels, in my opinion, have become a serious and effective marketing tool, which by design can seduce the prospective purchaser into selecting a bottle off the shelf for any number of conscious and subconscious motivations.*

*Our winery mail frequently contains requests from label collectors all over the world (most of whom include a self-addressed, stamped envelope), for sample wine labels. I often sign them, believing that makes them more valuable. (In fact, it probably reduces their value, much like a post office cancellation mark does for a postage stamp.) It has also occurred to me that somewhere our labels are not necessarily filed in an orderly, leather-bound volume, but more likely adorning a family room wall (or a shower stall, as one lady revealed her intended use), urethaned or varnished to a high gloss for viewers to study.*

*Wine labels seem to be unique to the food and beverage packaging sector. No other labels come to mind as having artistic value or being worthy of enthusiastic graphic praise, except the paper labels that used to adorn the end sections of orange, apple, and other fruit crates or boxes. I have observed those on several occasions in antique stores, tastefully framed for hanging.*

*The Studio Art Department of the School of Fine Arts at the University of California at Irvine maintains a collection of wine labels, which I presume are used by students of graphic design for inspiration. The Wine Institute headquarters in San Francisco, CA, also keeps a limited collection of labels for its members to reference when ideas are needed for label design.*

*It is unlikely that any part of a winery's infrastructure will ever be the subject for label art (especially the waste treatment facilities). Only engineers can see the hidden artistic value in the symmetry and orderly geometry of pipes, pumps, tanks, and ponds.*

## Waste Treatment System Expansion: Where to Begin

Before seeking professional design help, it is possible to perform some basic judgments 'in-winery' about what form the expansion or upgrading should take.

### Step One

There are a series of simple questions that can be answered to help narrow the planning options for the design engineer that you should eventually retain. You can focus the efforts of the designer readily by your superior knowledge of day-to-day winery operations and processing steps and how they affect the wastestream.

1) Is the plant being a) upgraded or b) expanded to accommodate a planned increase in winery capacity? If yes;

2) What is the precise nature of the expansion?
  a) more grape tonnage crushed on-site
  b) custom bottling of wine produced by others
  c) both

3) How well is the existing waste treatment plant performing; *i.e.*, what is the odor production and difficulty in meeting waste discharge permit criteria during:
  a) crush
  b) cold weather
  c) warm weather
  d) all the time

4) Is there physical space for expansion?

5) If the wastewater system handles a combined sewage of process water and sanitary waste, should a wastestream separation be considered, *i.e.*, gray water and black water systems? What would be the advantages in terms of cost and maintenance?

6) Do water consumption records demonstrate that you are somewhere close to unit consumption records for other wineries of your size? (See *PW* Sept./Oct. 1984.)

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7) What are the ages of the critical electrical/mechanical components of the waste treatment system and their design capacities?

| | Age | Operating Characteristics or Capacity |
|---|---|---|
| a) pumps | _____ | _____ |
| b) surface/ aerators | _____ | _____ |
| c) compressors/ blowers | _____ | _____ |
| d) mechanical screens | _____ | _____ |
| e) other | _____ | _____ |

### Step Two

Once you have the answers to the questions suggested above, you can begin to at least conceptualize what *must* be done and determine to a reasonable certainty if it can physically be done, given the constraints of the winery's real estate. (Urban wineries, and there are a few, need only renegotiate a sewerage agreement for more flow or higher solids loading and can skip the rest of this story.)

If question 1a is affirmative, then an increase in *both* hydraulic and solids loading will occur. If question 1b is 'yes', then the solids loading will be only slight compared to the hydraulic impact from a more frequent use of the bottling facility. For example, bottling line utilization might go from three months/year operation to six months to accommodate the custom bottling. Those related waste discharge increments can be quite accurately predicted.

If the overall 'grades' given to the existing waste treatment plant are 'B' or better, then building-on to the existing system may be readily done by adding parallel units or enlarging components to meet the additional increment of solids or flow. At this point, the design professional should guide the decisions on what the exact nature of the expansion should be to provide not only a sound technical basis upon which to proceed, but to begin the 'hard dollars' analysis to achieve the best end result for the least winery funds expended.

If real estate limitations prevent any physical expansion without encroachment on vineyards, roads or other winery infrastructure, the planning process should come to a complete standstill until another site is chosen on the property or the anguish of existing vineyard removal is recognized as the only

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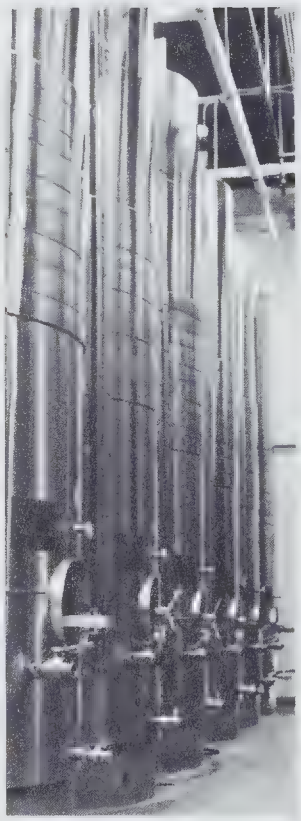

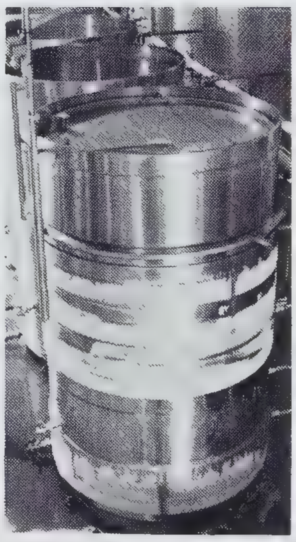

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option. Wrestling with this question can also include more serious, in-depth analysis of question 5.

For example, if the existing space allotted to waste treatment for a combined sewerage system (process and sanitary) is found to be lacking in size for the expansion, the separation of flows might allow the more complete utilization and commitment of the existing site for process wastewater *only,* while the space requirements for sanitary waste might be accommodated in a smaller area using advanced septic tank system design technology and construction methods.

For wineries with a bleak outlook for septic systems because of poor soil or high groundwater or *both*, there are many county jurisdictions in California that have adopted so-called *alternative on-site systems* as an acceptable option to conventional septic tanks and leachfields.

Finally, at this point in the planning for expansion, the judgment can be made on whether some additional hydraulic capacity might be gained by just being more prudent about water use. A resurrection of water conservation practices that were a matter of survival in California in the drought years of 1976-77 may be an inexpensive option for some of the needed capacity. Also, the choice should be made to plan and budget for the critical system components that have become maintenance headaches or whose age may be approaching 'useful service life'.

### The Big Step

Once your conceptual plan inputs are complete, you are ready to retain a design engineer to work with you in focusing on the detailed design of the new and improved system. The winemaker and the winery should remain an important part of the detailed planning, design, and construction process. There may be mid-course corrections in design that will require your attention and special inputs on scheduling and deadlines. The engineer should respond to the needs and ideas that are generated by your understanding of the problem from the winery's perspective.

Some wine market projections show the next five years to be a period of modest growth and expansion for the wineries that survive the 'flat eighties'. Be ready with your plans for growth—it may happen sooner than you think!

*David Storm is a consulting sanitary engineer and owner of Winters Winery, Winters, CA.*

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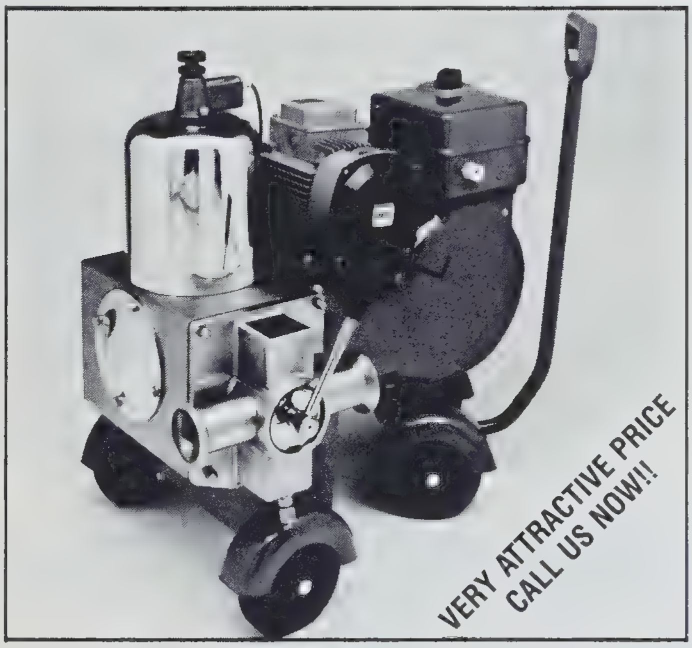

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# *Strategic Business Plans, Part III*

*Judy Mickle & Michael Lehman*
*Price Waterhouse, San Francisco, CA*

## The Financial Forecast

One of the most important sections of a business plan is the pro forma financial statements and supporting financial information which quantifies your projected results of operations and financial position. Following are some ideas on how to prepare the financial package for the business plan, including what information should be included and how the material should be presented.

### Pro Forma Financial Statements

Your financial statements should include, at a minimum, a balance sheet, income statement and a cash flow statement. The financial statements should reflect projections for a five-year period.

In brief, a balance sheet is a statement of your financial position as of a specific date and includes assets, liabilities, and equity. An income statement shows the results of your operations—wine sales, less production costs of wine sold, marketing and administrative expenses resulting in a net income or loss for the period. A cash flow statement shows how the resources generated by capital investment or operations of the business will be put to use—either by the creation of assets or the liquidation of liabilities. It also highlights the amount of cash that it takes to fund the operations that you are planning.

For a thorough discussion on how to prepare these statements and examples of what they should look like, a basic accounting text is a good resource if you are a 'do-it-yourself-er'. If you aren't familiar with financial statements at all, you may want to seek professional assistance.

### Statement of Operations

*Sales Projections* Your financial statement projections are built around projected wine sales. These sales projections should specifically indentify sales by variety by month. If your marketing strategy is to focus on sales to certain specific geographic regions, you may want to identify wine sales by region, as well. Your sales projections should represent what you actually think you can sell based upon the marketing strategies you've already described in the narrative part of the plan. If you have already had some operations, a potential investor will be interested in seeing how your projections compare to historical sales trends.

Once you have made your sales projections, you need to budget how you will acquire the appropriate bulk wine inventory. Bulk wine can be acquired by purchasing the bulk wine directly, growing the grapes you require, purchasing and crushing the grapes you need, or some combination of the three. There are important cost implications attached to the choice you make.

An analysis of this decision process is beyond the scope of this discussion. Let it suffice to say that viticultural control, net present value of cash flows, tax considerations and the availability of land, to name a few items, must be considered. Quite often, wineries will meet their bulk wine requirements by crushing their own grapes and purchasing additional grapes as necessary.

Depending upon the variety of wine you plan to sell, there will be at least a one-year lag between crush and sale of cased goods. Therefore, in projecting sales for the first year or two, you will need to use the quantity of wine you have available to sell as a reference point for your sales projections. In projecting sales more than two years out, you have additional flexibility in setting your sales levels, as you can modify future production to ensure that the right mix and quantity of wine is available.

For example, suppose you are a winery with 8,000 cs. eq. of Sauvignon Blanc and 4,000 cs. eq. of Cabernet Sauvignon bulk wine on hand. You sell the Sauvignon Blanc the year following crush and the Cabernet Sauvignon two years following crush. Based upon your marketing strategy, you would like to add a white Zinfandel to your product mix and increase your total sales level as follows:

| Sales Year | Sauvignon Blanc | Cabernet Sauvignon | White Zinfandel |
|---|---|---|---|
| 1987 | 10,000 cs. | 4,000 cs. | 2,000 cs. |
| 1988 | 10,000 cs. | 5,000 cs. | 5,000 cs. |
| 1989 | 15,000 cs. | 5,000 cs. | 8,000 cs. |

In order to have wine inventory in the appropriate quantities available to sell in those years, you would need to crush as follows:

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| Crush Year | Sauvignon Blanc | Cabernet Sauvignon | White Zinfandel |
|---|---|---|---|
| 1986 | 10,000 cs. eq. | 4,000 cs. eq. | 2,000 cs. eq. |
| 1987 | 10,000 cs. eq. | 5,000 cs. eq. | 5,000 cs. eq. |
| 1988 | 15,000 cs. eq. | 6,000 cs. eq.* | 8,000 cs. eq. |

** 1990 budgeted sales*

*Operating costs* In projecting operating expenses, you will need to estimate wine production costs as well as overhead and marketing expenses. Wine production costs typically include the cost of grapes, direct labor, wine storage costs, and an overhead allocation. Your marketing strategy and plan for implementing it will help to determine what portion of your gross sales will be contributed to the sales promotional effort. Developing an internal sales force will result in payroll expenses, advertising costs and travel expenses. Using the services of a broker will result in commission expenses. Overhead or administrative expenses include such items as management's salary, office rent, and professional fees.

The more carefully and accurately you are able to budget your expenses, the more realistic your projections will prove to be. Historical trends in operating expenses for prior periods and industry averages will give you guidelines in preparing your budgets. Be sure to include in your projected expenses any existing commitments or other contractual arrangements you have already established, such as leases or financing.

*Statement of financial position and cash flow statement* Various assumptions must be made in order to complete the projections: How long will it take to collect accounts receivable? Within what period will you pay your accounts payable? At what interest rate will you be able to obtain financing? How much will you spend on capital expenditures such as the purchase of property and equipment? When will those expenditures be made?

From this information, you can project your statement of financial position for the next five years. Accounts receivable are determined based upon current period sales less collections. Accounts payable are a function of purchases less cash payments. Property and equipment purchases should be projected based upon the level of productive assets required to handle your anticipated level of operations. The statement of operations and the statement of financial position taken together identify your projected cash flows: receipts from sales and outflows.

This information should be brought together in a cash flow statement. This will allow you to review your cash position at various points in time and help you determine the type and extent of financing you need. Typically, a winery starting operations or planning a significant expansion would require a substantial amount of equity and an initial term loan (for equipment purchases, etc.) to get the project off the ground. The winery will also need a line of credit to cover cash shortfalls resulting from the cyclical nature of the wine business—grapes and bottling supplies are purchased in late summer and repaid out of sales throughout the year.

Your financial statement projections should be prepared with your required financing and a proposed repayment schedule included. Don't forget to include interest expense at current market rate.

*Sensitivity analysis* Your initial draft of the financial statement package should now include a balance sheet, income statement, cash flow statement, one or two supporting schedules giving detailed information on projected wine sales, and a list of your key assumptions. If carefully prepared, the package will fit together—expenses will be consistent with the level of projected operations, productive assets will reflect the capacity needed to handle your proposed wine sales, inventory levels will be sufficient and of the right variety to cover projected sales.

There is much to be gained by preparing several sets of financial statement projections using a variety of different assumptions to determine the effect of those changes on your overall financial position. The process is called performing a sensitivity analysis. Not only will you learn what assumptions are most critical to your profitability, but the process will also assist potential investors in evaluating risk. Assumptions on which you may want to consider performing a sensitivity analysis include interest rates, sales levels, sales mix, sales price, and grape costs. If you are able to prepare the projections on a microcomputer with spreadsheet software, these changes should be easy and quick to make.

Finally, before taking your plan to your local banker, you may also find it helpful to have someone read the plan who can act as an independent sounding board. A fresh reading may help to identify inconsistencies or areas that are unclear, or may generate ideas that you hadn't thought of.

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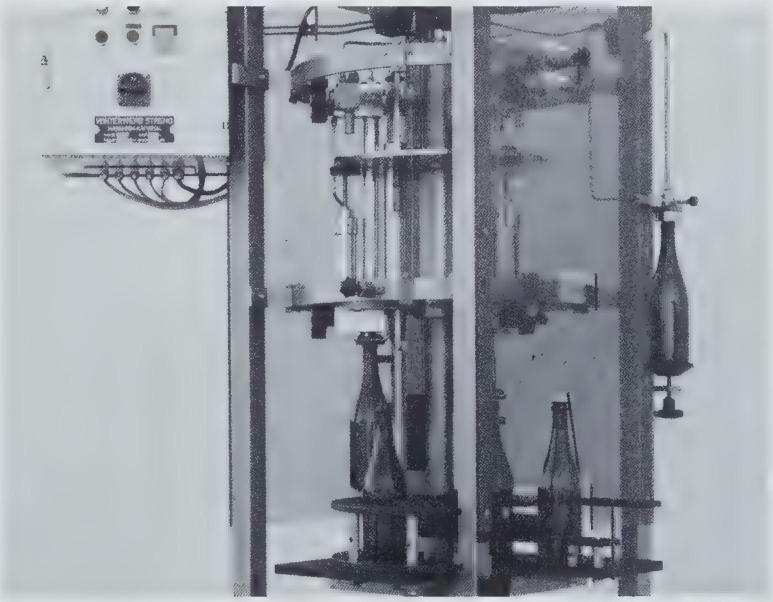

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# *Pre-Selected Wines Successful at Nepenthe*

*Joe Tarantino*

### How Wine Is Sold in Restaurants

To aid wineries in selling wine to restaurants, *PW* is conducting an ongoing survey of techniques restaurants use to sell wine to their customers. By suggesting to restaurateurs specific ways in which their wine can be presented, winery sales representatives may be able to achieve two goals: 1) promote more wine sales and profits to wineries and restaurants; and 2) gain placement on an otherwise inaccessible wine list.

Restaurant owners have discovered that recommending wine, in one form or another, increases sales and, thus, profits. Some restaurants have developed elaborate wine-by-the-glass programs. Others have initiated weekly or nightly specials featuring a specific entree and wine. Some rely on schooled waiters. A few use the menu to suggest a varietal type with a given meal.

One California restaurant has a 10-year track record with recommending specific wines to accompany each entree. Nepenthe's approach has been a rousing success, according to manager Kirk Gafill, because the power of suggestion is overwhelming. "You plant that seed right at the start," he says. "As they read each entree, they see the recommended selection and that makes them think about wine, especially if they don't usually order wine."

NEPENTHE SPECIAL

An 8 oz. Top Sirloin Steak with Baked Potato or French Fries and Green Salad.

*Delicious with Joseph Phelps Sirah.*

Nepenthe was founded and built by Gafill's grandparents 38 years ago. The restaurant is nestled on a hillside just above the Pacific Ocean in Big Sur, CA. The unique location attracts a tremendous tourist business. Nepenthe has thrived on a simple menu of char-grilled steaks, hamburgers, broiled chicken, fish sauteed in butter, soup, and salads, which has remained relatively unchanged over the years.

*photo by Mabel Lernoud*

Gafill attributes the success to location and the mass appeal of basic foods. "In a sense, we could serve anything here and be popular," he says. "The history, the view, the structure, all add so much to what we're serving. Being a restaurant is almost incidental. The menu successfully appeals to the broad spectrum of people who visit Nepenthe, from jet-setters to the Winnebago crowd to hitchhikers."

Only occasionally will chef Willie Nelson do a variation, by serving lamb chops, swordfish or salmon. Accordingly, the wine recommendations have rarely changed and only for reasons of supply or price, despite the influx of new wineries. However, the wine glut did inspire a wine-by-the-glass pro-

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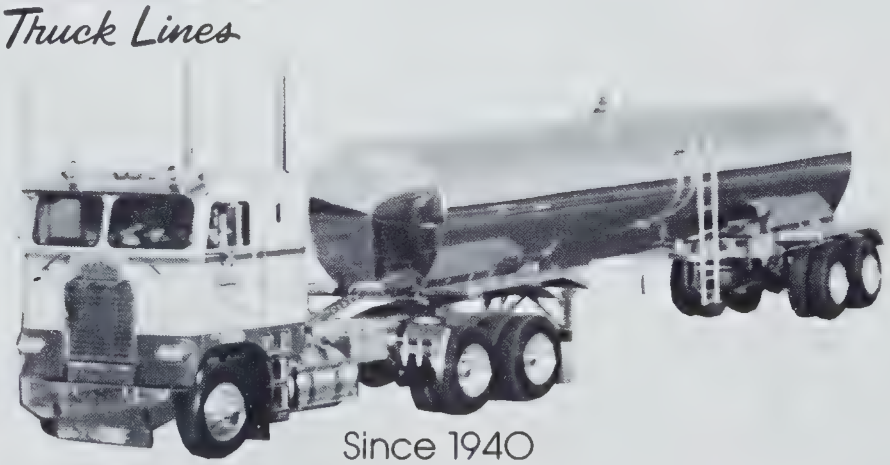

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gram, started in October 1985, which allows Nepenthe to showcase local wineries, and to acquire small quantities of bargain-priced wine, without the obligation of adding the selection to the wine list. But eventually Nepenthe will feature nearly all central coast wineries on its list.

**FRESH FISH: PACIFIC SNAPPER**
Garnished with Lemon Wedge, Tartar Sauce
*Excellent with Chardonnay.*

The food-wine suggestion program was started 10 years ago by a Nepenthe bar manager who was a wine enthusiast. Says Gafill, "We knew the clientele was there and the product [wine] was there. Our problem then—and now—is a lack of education on the part of the workers and the public."

Nepenthe has a loosely-knit education program for its waiters, many of whom have been employed at the restaurant for 20 years. The number of workers peaks at 120 during summer from about 50 in winter. "We have held wine tastings and seminars, in cooperation with wineries and distributors," says Gafill. "We do everything from how to open a bottle of wine and serve it, to tastings with food. J.Lohr sponsored a component tasting which featured wines with ingredients deliberately added to glasses of wine (butter, pepper, etc.), to illustrate specific characteristics. It was the most educational seminar I've ever attended."

As important as educated, enthusiastic workers are, Gafill encourages a low-key approach on the floor. "We ask waiters to judge the customers," he says. "We don't try to be pushy. If a customer seems open to recommendation, by all means do so. If you give a recommendation, 99 out of 100 times they will take it, so long as you come off confidently."

Gafill describes customers in two broad categories: those who order wine and those who don't. He wants to appeal to and satisfy both groups. Although the American wine-drinking public is better educated today than 10 years ago, he says, most consumers are still too easily intimidated by a wine list and the task of making the 'right choice'.

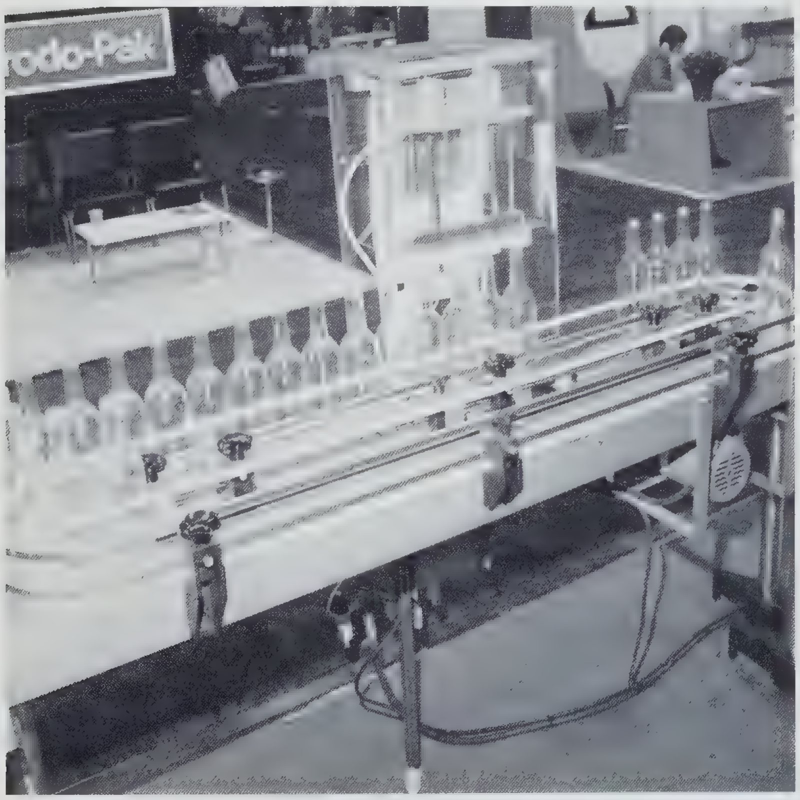
"A specific recommendation breaks down the mystique and intimidation of a long list, and the confusion over trying to create a good food-wine match," explains Gafill. "People assume the wine will be good and appropriate with the food, or it wouldn't be there."

**LOLLY'S ROAST CHICKEN**
Served with Special Sage Stuffing, Cranberries, Green Salad.
*Enjoy with J.Lohr Monterey Blanc.*

Gafill says that reaction to the program has come mostly from wine distributors who are pleased and intrigued with the concept, the results of which prove the merit of pre-selection. For example, the lunch menu, mostly sandwiches, features one recommended wine, J. Lohr Riesling ($13) with a Phoenix Continental Cheese Board (two cheeses, fruit, brown bread), priced at $7.25. The J.Lohr wine has outsold Mirassou ($11), Mondavi ($14), and a Bernkasteler Riesling ($10) by at least two to one each. On average, a suggested wine enjoys 25% greater sales than similar offerings on the wine list, regardless of price. All told, wine sales account for 30% of the bar total and 10% of the restaurant's gross.

**STEAK SANDWICH**
An 8 oz. Top Sirloin Steak served on Hot Buttered French Bread.
*Try this with Ridge Zinfandel.*

Nepenthe's marketing is not without guidelines. Suggested wines are priced about 10–40% higher than entrees. But the



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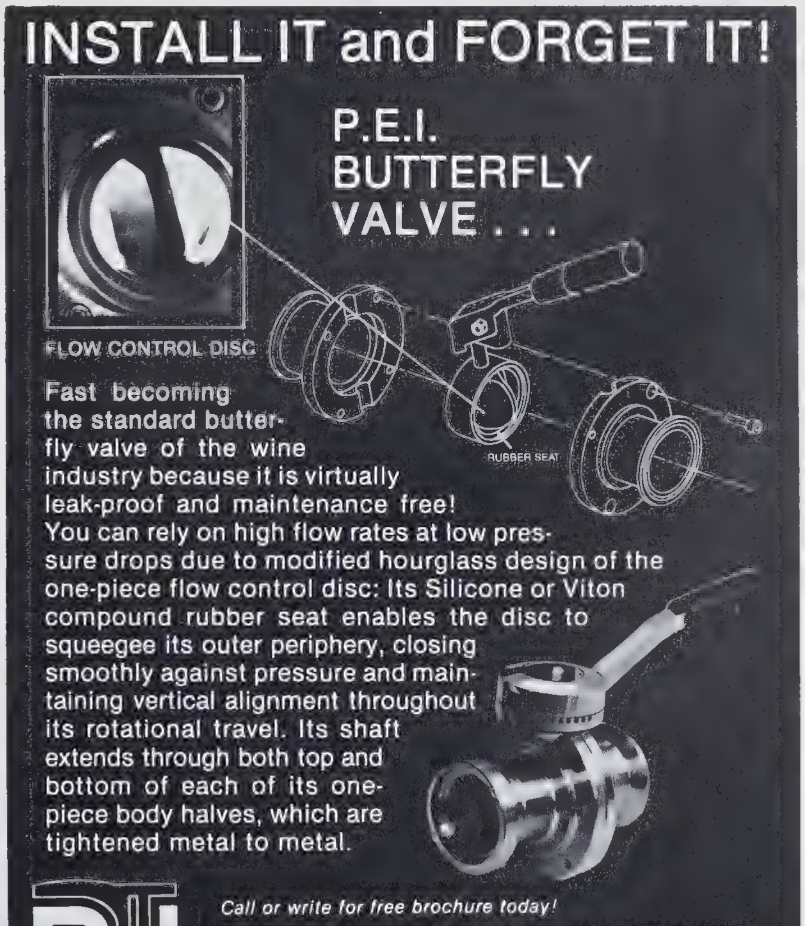

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menu does not state bottle prices. The rationale is that less print keeps the menu uncluttered. And, if customers know the bottle cost and perceive it as too expensive, they may not order wine. Because of this, most recommendations are also available in less costly half-bottles.

Gafill has learned that, just as the wine and food must harmonize, so should the pricing. "For years, we used a Goldtroppen with our lunch cheese board," he says, "but we experienced some tough years when the dollar declined and Germany had some off-vintages. In summer 1984, we were offering a $28 wine with a $6.50 cheese board. That upset some people, so we learned to pair expensive wines with more expensive entrees."

Nepenthe does just that with their dinner menu because evening diners tend to outspend lunchtime patrons. Examples of pairings include Robert Mondavi Cabernet Sauvignon ($21.50) with New York Steak ($16.75), Joseph Phelps Sirah ($15) with Top Sirloin ($13.25), Ridge San Luis Obispo Zinfandel ($10) with Steak Sandwich ($12.75), J. Lohr Monterey Gamay ($10) with Cheddar Steak ($10.25), and Robert Mondavi Fume Blanc ($15) with Holly's Quiche ($6.25).

**HOLLY'S QUICHE**

A crustless Quiche with Spinach, Mushrooms, Onions, and a combination of Jack and Cheddar Cheese.

*Excellent with Robert Mondavi Fume Blanc.*

Gafill speculates that the recommendations were originally made with assistance from wine distributor A.L. Romano of San Francisco. "I didn't initiate the selections," says Gafill, "and I don't know what inspired the actual choices. I think they were shooting for a widely-available, middle-price-range wine that people could afford and still get good quality. The Robert Mondavi Cabernet, for example, is full-bodied and is well-paired with our char-grilled steak, which is on the heavy, richly-flavored side. A Cabernet balances that heavy, meaty flavor. It doesn't overpower the meat, yet stands on its own."

Interestingly, and for no apparent reason, the menu simply states, for the $10.25 fish entree, 'excellent with Chardonnay', so the customer is invited to view the wine list, which includes six California Chardonnays and six negociant white Burgundies, priced from $17–$35. Gafill plans to insert a specific Chardonnay recommendation soon.

**CHEDDAR STEAK DINNER**

A 12 oz. Ground Steak, crowned with Melted Cheese and Chopped Green Onions.

*Delightful with J. Lohr Monterey Gamay.*

Nepenthe has enjoyed an unexpected side effect of the program. Wine sales bring more bottles onto tables which, in turn, generates a very positive visual experience for newcomers. "We used to serve a house wine in nondescript carafes," recalls Gafill. "Then we changed to Robert Mondavi Red and White in 750mL bottles ($2.25/glass, $7.50/bottle). We found that a specific bottle of wine on the table incites customer curiosity. People see wine and therefore at least think about it. It increased our sales of both house wine and varietals."

Increasing consumption of wine with food is linked to the further education of the public, says Gafill, who thinks it should start with the wineries. "Wineries enthusiastically educate us, we educate the waiters through tastings and so forth, and the waiters educate the public," he summarizes. "The big difference between wine and spirits is that wine is another food, a second element that complements your entree. When I can get waiters to believe, on a gut level, that wine is an adjunct to food, they become great salespeople overnight. It's amazing."

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by Fritz Hallgarten
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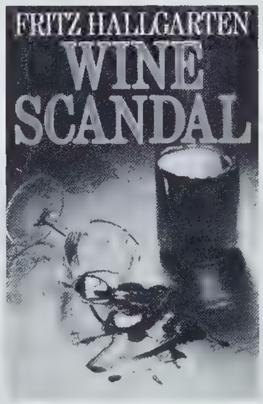

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# Vidal: Versatility from Good Breeding

*Eleanor & Ray Heald*

*Developed by J.L. Vidal, Vidal 256, now named Vidal Blanc, is a cross between Ugni Blanc (known as St. Emilion in France and Trebbiano in Italy) and Seibel 4986 (Rayon d'Or).*

*If hybridizing is considered synonomous with breed improvement, then Vidal Blanc shows its breeding more than any other French hybrid suitable for winemaking in the northeastern United States. When grown in a cool climate and vinified in a Germanic style, it shows a Riesling-like character. In some years,* Botrytis cinerea *infection adds a delightful sweet/spice character with late-picked grapes. In warmer climates, its Trebbiano character contributes to a wine reminiscent of a crisp, dry* vino bianco*.*

*According to Lucie T. Morton, "Vidal Blanc does have a pleasant vinous character similar to its mother, Ugni Blanc, and also some spiciness from its father, Rayon d'Or." Since there is no red counterpart to this variety, the cultivar will be referred to hereafter only as Vidal.*

*Pierre Galet states that Vidal "has some resistance to downy mildew and it is rated winter-hardy in New York." Powdery mildew problems are stated by nearly all the winemakers, and growers in the more northern regions all mention winter trunk damage as a viticultural disadvantage. Galet adds, "In the event of a late frost, it will produce a good secondary crop." This fact was frequently mentioned in the interviews as a distinct advantage.*

*Vidal clusters are medium-large, cylindrical, and fairly compact with small, golden berries when mature. It is a good producer, maturing in the latter half of the harvest period east of the Rocky Mountains.*

*It is a work-horse variety that makes good wine in dry, semi-dry, late-harvest, and ice wine styles. Several wineries have started to use Vidal for sparkling wine production, also. As the consumer sets trends, eastern winemakers have been able to shift easily with this versatile variety of good breeding.*

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## BOORDY VINEYARDS

*PW: Describe your style:*

**Robert Deford:** This varietal is a natural for Maryland's eastern shore. Every year, sugar and acid are in excellent balance with floral aroma. The finished wine has good, fresh acidity with a slightly sweet finish complementary to the fruity, aromatic components.

Vidal wines mature quickly. Within several months of bottling, flavor components come together, but the wine retains a pleasant youthful quality and freshness for up to three years.

Main courses of crab cakes, soft-shell crabs, and all curry or sweet-and-sour dishes match well. Cheese cakes and fruit tarts can be served with it for dessert.

*PW: Describe the vineyards:*

We purchase grapes from Cedar Point Vineyard (CPV) at slightly under 10 feet elevation on Maryland's eastern shore by the Chesapeake Bay and Doughoregan Manor Vineyard (DMV), inland and slightly north of CPV on Maryland's western shore at 400 feet. We also own a 4-acre vineyard with characteristics similar to DMV.

Vines were planted in 1968 on their own roots, 960 vines/acre, spaced 9x5 on principally flat land. Pruned to 16–24 buds/vine on a bilateral cordon, giving good distribution of foliage and positioning of fruit for penetration of light, air, and sprays, this easy maintenance system requires very light summer foliage pruning.

Initial pruning at DMV controls crop size, but CPV has higher vigor and we cluster-thin before bloom to get a yield of approximately 3 tons/acre.

CPV has sandy loam soil and DMV has clay loam soil composition with soil pH about 6 and 1.5–2 feet topsoil depth. Both vineyards have a red clay subsoil.

Mancozeb, used in 4–5 sprays through mid-summer, controls black rot and phomopsis. Ferbam and Folpet control black rot and bitter rot in mid–late summer spraying as needed. Benlate is used at bloom to prevent bunch rot. We also use Bayleton at bloom for powdery mildew and in two sprays thereafter for the same purpose. If insect control is needed, Diazinon is used. Vidal can be very susceptible to powdery mildew, but seems readily controllable with Bayleton.

A 10-year average shows 3,400 degree days for our own vineyard and DMV. CPV has a longer growing season and the fruit usually reaches higher sugar levels. There is no significant difference in wines produced from the three vineyards.

Two feet of snow falls in winter and the annual rainfall is 40 inches, but the amount can be highly variable during the growing season. Winter lows can be -15°F for 1–3 days at night. In areas where cold air drains from the vineyards, vines can be killed to the ground. We trellis our vines to a 42-inch bottom wire and our frost damage has been minimal.

Budbreak is about May 1, berry set mid-June, and veraison in early August.

*PW: When are the grapes picked?*

Picking begins generally in late September and can continue into the first week of October. We look for 20–22.5° Brix, TA of 0.85–1.0 g/100mL, pH ranging from 3.25–3.35, minimal rot, and no powdery mildew.

*PW: How is the wine made?*

Hand-picked grapes receive 60 ppm $SO_2$ at crush. Juice is settled overnight at 45°F and racked before yeast inoculation. Recovered juice lees are made into a blended white wine along with other high solids juices.

A two-week fermentation starts at temperatures of 65–68°F, is cooled to 58°F through the middle and completes (5° Brix or below) at 65°F or ambient cellar temperatures. The wine is racked upon completion of fermentation and twice more at one-month intervals. Free $SO_2$ levels, adjusted monthly, are maintained at 30 ppm.

Bentonite is added at an approximate rate of 2 lbs/1,000 gal prior to cold stabilization. The wine is held at 34°F for cold stabilization for two weeks prior to bottling.

The wine is filtered at bottling in February following harvest with both coarse and fine pads followed by a $0.45\mu$ depth cartridge and $0.45\mu$ membrane cartridge.

## FRANKLIN HILL VINEYARDS

*PW: Describe your style:*

**Charles Flatt:** Our fruit ripening levels dictate only one style, Germanic. Cool, deliberately-stopped fermentations and sweet reserve methods produce a wine that is designed to be consumed young. The wine is fruity, soft, and very easy to drink.

Vidal has a young freshness that only this white hybrid exhibits. As a young wine, it is pleasant with seafood and fowl. It doubles especially well as a 'social drink' with fresh fruit, bread and assorted mild cheeses.

*PW: Describe the vineyards:*

In 1979, we planted 4.5 acres, 600 vines/acre, spaced 9x8, to Vidal on its own roots on a hilltop at 700 feet elevation, overlooking the Delaware River in southeastern Pennsylvania. The entire vineyard has good air drainage with some rows on a south-facing slope and others facing northwest. We use high single-cordon training on a 6-foot trellis recommended by Pennsylvania State University (PSU) because less tying is involved and fruit is high off the ground, which simplifies picking.

We prune our vines, which generally have good vigor, to 35–40 buds/vine. It is essential to thin to 1 cluster/counted node during the growing season to control crop size to yield about 5 tons/acre.

Soil composition is Berk's shaley loam with very good drainage, a pH of 6.5, and 2–4 feet of topsoil. Subsoil is shale and slate with some clay in low areas. Ammonium nitrate is applied in April at the rate of 300 lbs/acre.

PSU recommended the following spray program, which is continually modified for our particular climate. Fungicides are also constantly changed to avoid resistance development.

At bud swell, we occasionally apply Guthion for grape flea beetles. Ferbam is applied to new shoots to prevent blackrot. Pre-bloom applications include Manzate 200 for blackrot and downy mildew and Benlate for powdery mildew. Manzate is reapplied at post-bloom, along with Bayleton for blackrot and powdery mildew.

First cover application includes Sevin to control Japanese beetles along with Captan for phomopsis and Bayleton. Second cover spraying is done with Captan and Benlate (for powdery mildew). Third and fourth cover applications are with Captan and Bayleton. Spreader-sticker is used in all sprays after post-bloom, but not in the fourth cover spray. Powdery mildew and crown gall are the principal viticultural problems with Vidal.

Our annual range of degree days falls between 2,500–3,000 with 2,800 estimated as necessary to ripen the cultivar in this region. Annual rainfall is 35 inches with 33 inches coming during the growing season. We have light–moderate snowfall, but no major accumulated snow depth at any one time. Winter lows of -12°F for 24–48 hours have been recorded in our vineyards. This results in cracked trunks, which are future sites of crown gall infections. Frost danger is past before budbreak about April 10. Berry set is generally after June 23.

*PW: When are the grapes picked?*

We can pick Vidal from early to mid-October in most years with 22–24° Brix, TA of 1.0–1.2 g/100mL, and pH between 3.1–3.3. My order of priority for using these numbers is pH, then sugar levels, then TA.

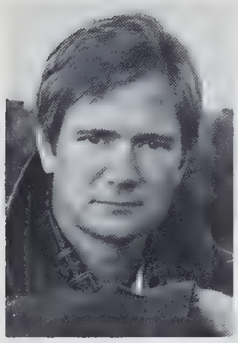
*PW: How is the wine made?*

Hand-picked grapes with a 50 ppm $SO_2$ addition are crushed and pectic enzyme added. Juice is settled for 12–16 hours at 45°F. After racking, juice lees are recovered and become part of a less expensive white blend.

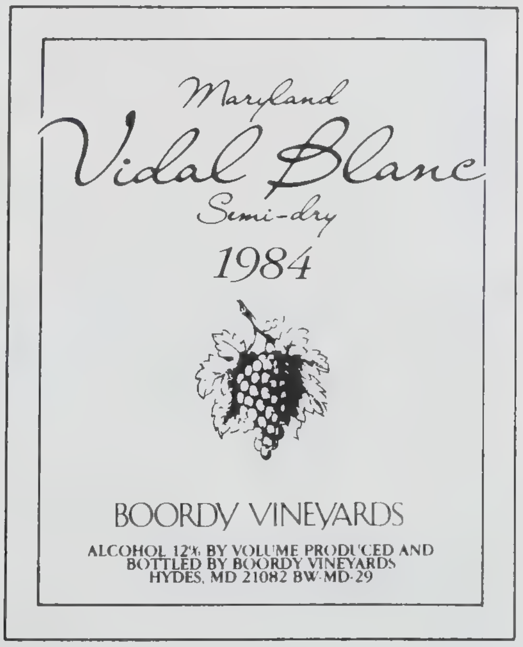
Fermentation completes in 40 days with peak temperature of 65°F. When sugar levels are 1–2° Brix and alcohol around 11%, the wine is racked off the yeast lees and held at 18–20°F for 10–14 days. Bentonite treatment is given at this time also and $SO_2$ levels are adjusted to 40–60 ppm free.

This schedule is followed by a 1.0$\mu$ cartridge filtration and then a 0.45$\mu$ cartridge filtration. The wine is then divided into 2 lots. Most of it is sorbated at approximately 1.0 g/gal. The remainder is carefully marked and bottled without preservative for experimentation purposes.

The sweet reserve is made from Vidal grapes with high sugar levels in the range of 22–25° Brix. This is a fairly simple operation, since Vidal is a late-picked grape in our region and we have to 'hold' the juice less time. Grapes for the sweet reserve are crushed and pressed and juice is separated at temperatures under 40°F. It is bentonited, 0.45$\mu$-filtered, sulfited at 70 ppm, and sorbated at the same rate as the wine. It is stored in 60-gal stainless steel barrels at 35–40°F and added to the wine at bottling time when the 'married' wine and sweet reserve are



Robert B. Deford III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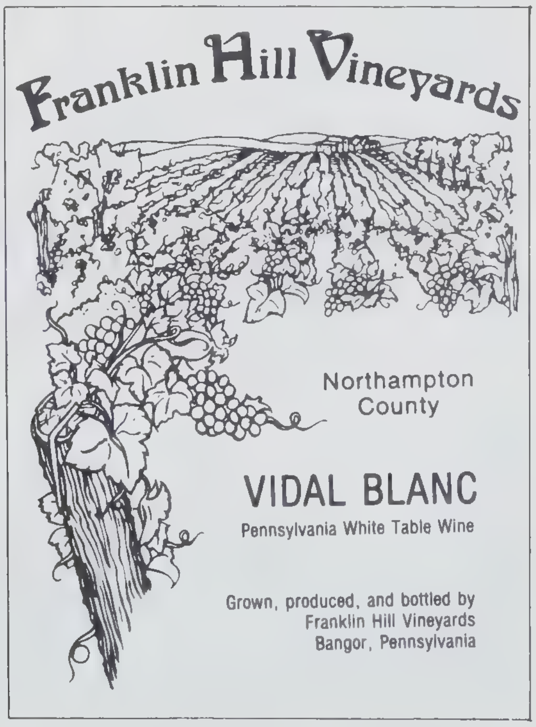
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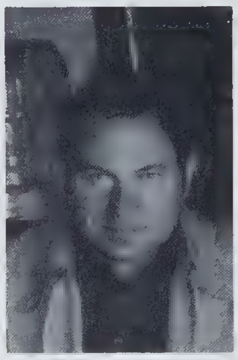


Ewald Reif

finally filtered at $0.45\mu$. Sweet reserve is usually 8–10% of the total volume. Sweet reserve wines are bottled quite young, just prior to Christmas, and released in early January.

## REIF WINES

*PW: Describe your style:*

**Ewald Reif:** I prefer to make Vidal in a very fruity Germanic style; residual sugar brings out the aromatic characteristics of the grape. At the time of release, it has brisk acid balance and forthright fruit, and these are the qualities that the wine will retain for one year. It's at its best 4–6 months after bottling, although riper vintages can gain complexity for a further year. I find the wine to be best served on its own or with light luncheons.

*PW: Describe the vineyards:*

We have a 19-acre parcel–half planted in 1974 and half in 1981–located within range of the moderating effects of Lake Ontario, a couple miles north, and the Niagara River, a hundred yards or so to the east. Spacing is 5.5x10 for 800 vines/acre, all grafted on SO4 rootstock. 5BB rootstock has been found to have too much vigor for this variety. Although traditional German methods of training were used when I first arrived from the Rheinpfalz in 1977, the 4-cane Kniffen has proven superior. Its open canopy allows better air circulation and more sun. Also, on the labor side, it's easier to handle. We prune to 40 buds/vine (32,000/acre) and cluster-thin to one bunch/shoot to yield approximately 6 tons/acre.

The vineyard is on flat land with 16 inches of sandy loam topsoil with less clay and more gravel than others in the vicinity. Soil pH varies from 6.6–6.8. Underlying subsoil is black clay, Canadian Till with drainage tiles every 25 feet. In late May, nitrogen (at 80 lb/acre) and potash (at 450 lb/acre) is applied. To control downy mildew, Phaltan is applied 5 times through the growing season at 3.5 lbs/acre. This is accompanied by 7 lbs/acre of sulfur at the same intervals to control powdery mildew.

There are an average of 2,450 degree days annually and this is just sufficient to ripen Vidal perfectly. In lesser years, only 19–20° Brix rather than the ideal 22–23° may be attained. Average annual rainfall is 28 inches with 50% during the growing season. Winter temperatures in January and February can drop as low as -9°F for periods of 1 or 2 days with bud-freeze the major danger to the vines. Budbreak occurs with Vidal during the second week of May and there is a 1- or 2-week period following when a late frost can cause severe damage. Berry set is the second week in July and veraison mid-August.

*PW: When are the grapes picked?*

Vidal is usually harvested on and around the 20th of October; both the 12-year-old and the 5-year-old vines show optimum sugar/acid balance at the same time. It is interesting to note, however, that the younger vines have consistently provided higher sugar and better flavor under identical conditions. Harvest window is 22° Brix, 0.9 g/100mL TA, and 3.15 pH.

*PW: How is the wine made?*

The grapes are mechanically harvested and, after crushing, receive 40 ppm $SO_2$. A minimal amount of rice hulls is used at pressing, immediately following crushing.

After a 24-hour settling period at about 60°F–the wine is racked and 20 g/hL of active-dry Epernay yeast and 1 g/L of bentonite is added. Fermentation–and all storage–takes place in old 5,000–10,000-liter German-oak ovals at a cool ambient temperature of about 60°F and usually lasts 5–10 days.

First racking takes place immediately after the fermentation is completed, and the wine is racked once more at the end of November. Every 2 weeks the ovals are topped and $SO_2$ is adjusted to 50 ppm free. Cold stabilization is carried out at approximately 28°F for 2–3 weeks. The wine is fined with bentonite and potassium ferrocyanide. Bentonite levels are determined by 'Bentotest', and potassium ferrocyanide levels by copper and iron analysis. Gelatin is normally added at 5 g/hL preceded by 20 mL/hL of kieselsol. A polish pad filtration follows the fining, and there is a $0.25\mu$ membrane filter at bottling. The wine has 55 ppm free and 142 ppm total $SO_2$ at bottling. After 1 month in bottle, the wine is released.

## SAKONNET VINEYARDS

*PW: Describe your style:*

**Jim Mitchell:** Vidal is made best in a dry style with a 'no-frills' approach to emphasize its aroma–cool, stainless steel fermentation, minimum acid adjustment, and no fining or oak ageing. It is a versatile grape and lends itself to a sparkling wine cuvée as well as a late-harvest dessert wine when botrytis is present.

As a young wine, it is light and fruity with a light–medium body. Cellar-aged for five years, it develops complex fruit characters, but can also develop a canned asparagus character accompanied by a very dry finish. The wine shows best after 18–36 months.

Vidal in a dry style best accompanies light seafood or shellfish. It also serves well as a dry aperitif.

*PW: Describe the vineyards:*

We purchase grapes from Apponagansett Bay Vineyards in Westport, MA, and use grapes from the winery-owned 45-acre vineyard, five acres of which are planted to Vidal. Both vineyards are coastal locations at an elevation of 100 feet, with less than 5% slope, east and west exposures at the top of a ridge, and have similar characteristics. The only difference noticed in the 1984 wine, which was 50% Apponagansett, was that the purchased grapes gave more ripe flavors while our vineyard added complexities and aroma to the finished wine. Vines were planted on their own roots in 1975–1981, spaced 9x7 for 690 vines/acre.

Vines are mid-wire cane- and spur-trained on one set of catch wires with spreaders. Tucking-in is the only canopy management. Cordons do not survive because of winter lows. High renewal is not practical because of wind damage to young shoots. We use balanced pruning, 20+10, aiming for 20–25 fruiting spurs/vine. If necessary, we thin to 20–25 shoots to control crop size. Average annual yield is 5–7 tons/acre.

Soil is silt, sandy loam, and decomposed slate with a pH between 5.0 and 5.4. Topsoil depth is 2–2.5 feet and subsoil is a clay/gravel mix. Both vineyards are lightly fertilized in spring with 20 lb/acre nitrogen.

Early sprays at budbreak, 4–6 inches, 10–12 inches, and prebloom include Captan, Benlate, and Ferbam for botrytis, downy mildew, dead arm, and black rot. From post-bloom and every 10–14 days thereafter, sprays include Bayleton, Captan, Folpet, and Ronilan for downy/powdery mildew and bunch/black rot.

Occasionally extreme lows are 0°F to -5°F, but more likely continued lows during winter are 5–10°F. There is some loss of primary buds depending on when the first sustained low occurs and some trunk splitting with extreme lows.

Budbreak is May 5–10, berry set at the end of June, and veraison about August 10. Because of ocean moderation, vineyards lag behind in spring, but catch up in fall due to continued ocean warming late into fall.

*PW: When are the grapes picked?*

We hand-pick Vidal as late as possible when no further ripening can occur. This is generally the last week of October with grapes at 19–20.5° Brix, 0.95–1.2 g/100mL TA, and pH between 3.2 and 3.25.

*PW: How is the wine made?*

Grapes receive a 50 ppm $SO_2$ addition at crush and a pectic enzyme addition. Pressing with a tank press follows immediately, and Acidex is added to reduce TA to 0.95–1.0 g/100mL. If needed, $KHCO_3$ is also added to wine before cold stabilization.

Juice is settled for 36 hours at 50–55°F before yeast inoculation. About 0.5% solids remain in the juice. All white juice lees are fermented together, cleaned up and blended back with white hybrid wines other than Vidal.

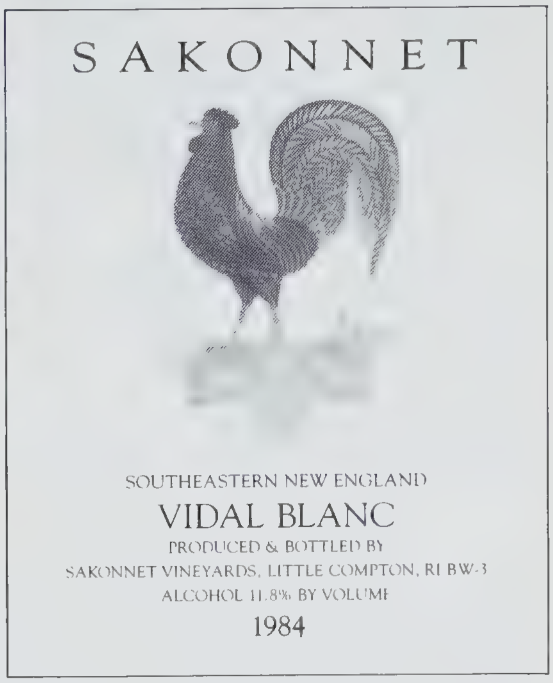
Fermentation lasting 10–30 days continues at 50–52°F to 2–3° Brix when cooling is turned off. Depending on ambient temperatures, some lots chill to 32°F, fermentation stops, and when all lots are finally blended, the residual sugar is about 1.0 g/100mL.

Wine is racked off yeast lees once fermentation completes. We rack only once more in late December. If wine is handled beyond this, we coarse pad-filter. $SO_2$ adjustments to 40 ppm free are made every two weeks. Cold stabilization is done January to mid-February at ambient cellar temperatures in the range of 25–35°F. Heat stability is never a problem.

We rack and coarse pad-filter after cold stabilization and tight pad-filter before bottling in mid-April. We release as early as two months later, but have waited as long as a year before releasing the wine.

Although the 1984 wine is 100% Vidal, we have, in the past, blended with 8–10% Cayuga. It is harvested at the same time as Vidal, needs the same treatments, has the same wine characteristics, and is a convenient use for small lots of Cayuga. The final blend is made immediately after crush.

*Jim Mitchell*



## CHALET DEBONNE VINEYARDS

*PW: Describe your style:*

**Tony Carlucci:** Clean fruit and a cool, lees filter-stopped fermentation produces a Germanic-style wine. Floral, fruity aromas dominate in the young wine along with some citrus, principally grapefruit, flavor components. Bottling in May following harvest preserves youthful characteristics. Consistent flavors and quality hold for two years.

Vidal in a Germanic style serves as both a table wine with cold crab dishes, baked trout, and chicken in white sauces or as dessert with apple pie, fresh fruit, and strawberries with cream.

*PW: Describe the vineyards:*

We have four acres planted to Vidal at an elevation of 1,010 feet located on the south ridge of the Grand River Valley. Vines were planted in 1975 on their own roots on 5–8% well-drained hillside slopes with northern exposure, 550 vines/acre spaced 8x10. We use four-cane Kniffen because multiple trunks provide good sun exposure, air movement through the vineyard, and easy recovery from winter injury.

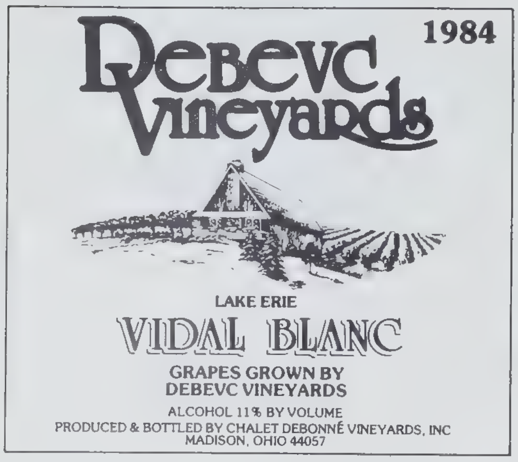
Although many growers in our region use the Geneva Double Curtain (GDC) for increased yield, it creates problems during hand operations. A lower single curtain allows for easier access to fruiting canes during pruning and cluster/shoot thinning. A Single Curtain system minimizes the tedious above-shoulder-height operations of GDC training and trellising. We attempt to maintain a full vertical canopy with clean floor area to effect good air movement.

We prune mature vines to 30–35 buds each. This pruning, followed by meticulous shoot and cluster-thinning prior to bloom, controls crop size to 4–5 tons/acre.

We have Platea soil in the top 21 inches above a hard Fragipan layer. Although our terrain is gently sloping, our soil has poor drainage. The top 13 inches of the Platea soil is light, yellow-brown silt loam. The layer from 13–24 inches deep is composed of dark brown, light silty clay loam and Fragipan in the 21- to 44-inch layer inhibits downward movement of water. Topsoil depth is 4–6 inches with a soil pH of 5. Subsoil is yellow clay.

Fertilizing varies according to vine condition after the winter and to leaf and soil tests performed yearly. Early spring nitrogen application and subsequent nutrient additions may be made.

Vidal is well-adapted to our region and shows good insect and disease resistance. Airborne phylloxera is controlled by Zolone applied in the last week of June, then every 14 days for a total of 3 applications. Folpet, M-22 Special, and Bayleton are applied at bloom and at first sign of infection to control downy and powdery mildew.



1984

Debevc Vineyards

LAKE ERIE

VIDAL BLANC

GRAPES GROWN BY
DEBEVC VINEYARDS

ALCOHOL 11% BY VOLUME
PRODUCED & BOTTLED BY CHALET DEBONNÉ VINEYARDS, INC
MADISON, OHIO 44057

*Tony Carlucci*

This region has 2,740 annual degree days which are sufficient to ripen Vidal in most years. Annual snowfall is 80 inches. Rainfall averages 33 inches/year with 18 inches during the growing season. Winter lows of -18°F for 2–3 hours on a few nights in mid-winter can cause trunk splitting and 50–75% primary bud damage. Frost damage is most likely from budbreak, the fourth week in April, through the fourth week in May. Berry set is June 10–15.

Winter injury and mildew infections are the principal viticultural problems with Vidal.

*PW: When are the grapes picked?*

We want cool and clean fruit from 21–24° Brix, TA of 0.9–1.1 g/100mL, and pH between 3.1 and 3.25. Sugar and pH levels are the most important factors and these are generally on target between October 28 - November 5.

*PW: How is the wine made?*

Hand-picked grapes are crushed without $SO_2$ addition and pressed immediately. There are 1% solids in the juice after 24-hour settling at 50–55°F. Juice lees are recovered after racking with a lees filter. Fermentation is completed in 6 weeks at 50–55°F. Immediately following fermentation, $SO_2$ levels are adjusted to 45–50 ppm free and maintained.

First racking off the yeast lees is done in late December and one more racking follows in May. A heat stability test is done following the first racking, but we find that Vidal is heat-stable in our region and we have never used fining agents with this variety. At this time, we also do a coarse DE pressure-leaf filtration.

Winters are sufficiently cold, so cold air is forced in to cold-stabilize the wine after the first racking for two months at 35°F. When the wine is bottled, a $0.45\mu$ membrane cartridge is on the bottling line.

## GREAT WESTERN

*PW: Describe your style:*

**Patty Herron:** This variety is best finished slightly sweet or in a late-harvest style, since floral and fruit characters are intensified with grape maturity. Vidal hangs well late in the season, making it a perfect late-harvest variety.

Our semi-sweet Vidal is floral, while the Late Harvest style is both floral and fruity, with luscious flavors of peaches and apricots. Semi-sweet Vidal is perfect for fruit, cheese, light entrées or light desserts. Our Late Harvest Vidal is definitely a dessert wine that is great with cheesecake.

Given proper storage, 1–2 years is the maximum cellaring potential of our Vidal wines in either style. Inherent floral and fruity characters are best when the wine is young.

*PW: Describe the vineyards:*

Between 1971–1981, The Taylor Wine Company planted 26.5 acres to this varietal on its own roots on gentle slopes (4–8%) at 650–1,000 feet elevation at three locations in Seneca, Steuben and Yates Counties, NY. The vines have both east and west exposure and are planted 6x9 for 807 vines/acre on an Umbrella system to accommodate large vines.

Vines are pruned in late February through early March to adjust for winter-related damage. 15 buds are left for the first pound of pruning wood and 15 buds for each additional pound to a maximum of 45 nodes. Shortly after berry set, vines are thinned to 3–4 clusters/count node. Average yield is 4 tons/acre.

Soils range from gravels to silt loams with pH 5.0–7.2 and topsoil depth of +30 inches. Depending on need, spring fertilizing can be either a single application of ammonium nitrate or ammonium sulfate at 68 lbs actual nitrogen/acre or split applications, the first at 60 lbs actual nitrogen/acre in mid-April followed by 40 lbs actual nitrogen at set. Potash is applied in the fall; amounts depend upon petiole analysis.

Eight sprays are applied as needed, beginning in mid-May through mid-September. Manzate is used every application for blackrot and downy mildew. Bayleton is alternated with sulfur for powdery mildew. Sevin or Parathion are used as insecticides only when needed. Spreader-sticker is used in all sprays at 2 oz/100 gal.

Our region averages 2,400–2,700 degree days with 2,500 necessary to ripen Vidal. We get 34 inches of snow included in the 28 inches of precipitation with 10 inches of that coming during the growing season.

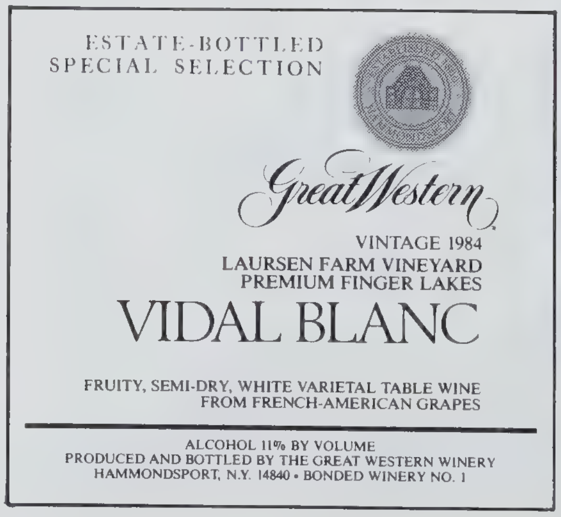
The lowest recorded winter low in this vineyard is -11°F, but only for a few hours. Temperatures this low may cause extensive bud mortality and severe cambium damage, depending on preceding temperatures.

Since budbreak is late, about May 12, frost damage is not considered a problem. Berry set is early July followed by veraison mid-August.

Vidal is considered winter-tender, but it makes up for this by having very fruitful secondary buds. The potential for overcropping is very high.

*PW: When are the grapes picked?*

For the semi-sweet Vidal we pick between October 1–16, with these parameters: 20.0–21.5° Brix, TA 0.73–0.80 g/100mL, and pH ranging from 3.20–3.30. For the late-harvest style, we have picked between October 7 and November 13 in most years with Brix between 21.2–24.0°, TA 0.78–0.90 g/100mL, and pH 3.20–3.34. If the growing season allows, we like to see dehydration of the berries with some botrytis infection. When



ESTATE-BOTTLED
SPECIAL SELECTION

Great Western

VINTAGE 1984
LAURSEN FARM VINEYARD
PREMIUM FINGER LAKES

VIDAL BLANC

FRUITY, SEMI-DRY, WHITE VARIETAL TABLE WINE
FROM FRENCH-AMERICAN GRAPES

ALCOHOL 11% BY VOLUME
PRODUCED AND BOTTLED BY THE GREAT WESTERN WINERY
HAMMONDSPORT, N.Y. 14840 • BONDED WINERY NO. 1

*Patty Heron*

sugar levels do not appear to be increasing or weather predictions indicate frost or snow, we harvest.

*PW: How is the wine made?*

At crush, 50 ppm $SO_2$ and pectic enzyme is added to hand-picked grapes. We give the late-harvest must 1–2 hours skin contact in order to extract as much of the concentrated sugar from the raisined berries as we can.

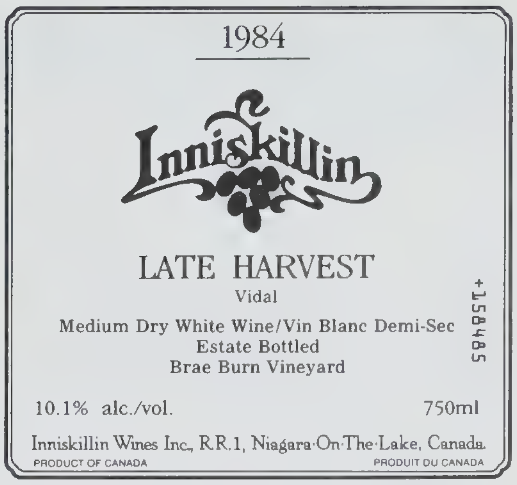
A paper press aid at 0.5% is used in a tank press. When needed, the juice is pre-fermentation-fined with bentonite; it was not needed in 1984. Juice is settled 24 hours at 45–50°F prior to racking; juice before fermentation has 2–4% solids. Juice lees are not recovered.

Fermentation, lasting 11–14 days, is controlled between 55–60°F. First racking occurs several days before fermentation is stopped by an $SO_2$ addition and chilling the wine to 35°F. The semi-sweet style is normally stopped at 9.5–10.5% alcohol and 4.0–4.5% r.s. We then DE-filter to remove the yeasts.

Fining trials are done to determine the minimum amount of fining agents required to protein-stabilize the wine. Both bentonite and Polyclar AT are used for fining 3–4 weeks prior to bottling. At this time, the wine is cold-stabilized at 26–32°F.

After 5–7 days, cold and heat stability tests are run to determine stability. The wine is racked off the fining bottoms, then polish-filtered with tight pads. $SO_2$ is adjusted to 50 ppm free and there is a $0.45\mu$ membrane ahead of the filler on the bottling line.

*Karl Kaiser*



1984

Inniskillin

LATE HARVEST

Vidal

Medium Dry White Wine/Vin Blanc Demi-Sec

Estate Bottled

Brae Burn Vineyard

+158485

10.1% alc./vol. 750ml

Inniskillin Wines Inc., R.R.1, Niagara-On-The-Lake, Canada.

PRODUCT OF CANADA PRODUIT DU CANADA

## MOUNT PLEASANT VINEYARDS

*PW: Describe your style:*

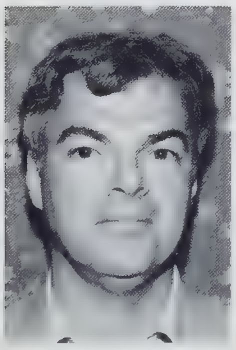
**Lucian Dressel:** We cannot grow *vinifera* on a commercially viable scale in Missouri; therefore, Vidal is our 'Chardonnay'. We want a neutral, appley wine that will benefit from French oak ageing. Given Missouri's growing conditions, Vidal fruit is not worth striving for and the wine is too austere to try for a 'Riesling' style.

Vidal, despite its neutral character, takes on a 'Chardonnay' character primarily from oak. At optimum maturity, we strive for a Macon-like wine with the only eastern quality being a harsh finish which seems endemic to most eastern varieties. It is at its peak in 3 - 4 years, given a longer life and intensified character with oak ageing.

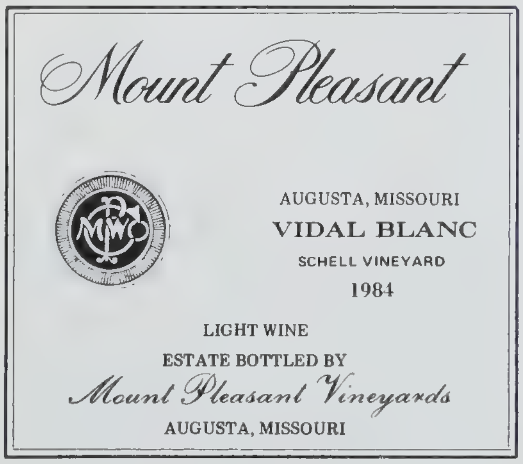
I like this wine primarily with mild cheeses.

*PW: Describe the vineyards:*

On a hillside with 20° slope and eastern exposure, our 4-acre Vidal vineyard, planted in 1970 on its own roots, overlooks the Missouri River Valley at a 475-foot elevation in the town of Augusta. Records indicate that this vineyard site was first planted in 1832.



*Lucian Dressel*



Mount Pleasant

AUGUSTA, MISSOURI

VIDAL BLANC

SCHELL VINEYARD

1984

LIGHT WINE

ESTATE BOTTLED BY

Mount Pleasant Vineyards

AUGUSTA, MISSOURI

Vines are spaced 9x8 for 585 vines/acre on a single cordon 5.5 feet off the ground. Vidal is the worst-looking plant in the vineyard. Its arms must be kept off the ground and weeds must not be allowed under the trellis. Hand-weeding snaps many canes. We hedge this variety since it runs very long, brittle arms that grow helter-skelter from the plant. Vidal has very poor growth pattern manners.

One reason why it is so popular is that anyone can prune it any way they wish. 90% of the wood winter-kills and most of the crop is borne on adventitious shoots. The crop is usually heavy which makes the pruner feel he's done a good job. Controlling crop size only by pruning, we average 5–6 tons/acre.

There are 16 feet of Loesal loam with varying pH on top of bedrock. Annually, in spring, 40 lb actual nitrogen/acre is applied as a 12-12-12 mixture (nitrogen, phosphorus, potassium).

Half the vineyard is sprayed every week starting in early April, 14 - 16 applications/year with Sevin, Captan, and Dithane for our major disease problems, phomopsis and powdery mildew. Twenty-two inches of rain out of a yearly total of 36 inches fall during the growing season, which has 2,900–3,600 degree days. Only 2,300 are needed to ripen Vidal, which has budbreak near the end of April, berry set about May 20, and veraison mid-August.

Temperatures as low as -22°F for 6-hour periods are possible in this region during winter. This causes extensive damage to one-year-old wood, but not to trunks in well-managed vineyards that have not been overcropped in the previous growing season.

*PW: When are the grapes picked?*

We generally hand-pick Vidal between September 5 and 15, but we have picked as early as August 20. Our typical harvest window is 19.0–20.5° Brix, TA 0.70–0.90 g/100mL, and 3.15–3.30 pH.

We rely mainly on taste, seed ripeness, and berry texture once the 'numbers' are in range.

*PW: How is the wine made?*

Grapes receive 85 ppm $SO_2$ at crush. We also use pectic enzyme, 25 g/100 tons. Vidal, among all the French hybrid varieties, seems to need no press aid. Juice is settled for 18 hours at ambient temperature before racking. Less than 2% solids remain in the juice.

Once an active fermentation begins, we drop the temperature to 60–62°F, and at 1° Brix we raise it to 67°F and hold it there until the completion of fermentation, which normally takes two weeks. First racking off yeast lees follows in five days and three more rackings are done in October, December, and March before the wine is placed in new, 50-gal Limousin barrels for a period of one week to 70 days. Barrels are topped one week after filling and $SO_2$ adjustments are made once or twice to maintain 20 ppm free $SO_2$. The wine is clarified, filtered, and stored until bottling.

## INNISKILLIN

*PW: Describe your style:*

**Karl Kaiser:** I find that Vidal is best done in a Germanic style, with some residual sugar. We've tried other styles over the years in smaller quantities—even using malolactic fermentations and oak-ageing—but we've never been completely satisfied. The Germanic style is better received by the public. That image may have been reinforced by special late-harvest editions, Beerenauslesen, and Eisweins that we've made from Vidal recently.

The regular Vidal is pleasantly fruity at release. It usually has some residual $CO_2$, which adds to its refreshing appeal. If you want to match it with food, treat it like a Gewurztraminer—both are intensely aromatic and very phenolic to the taste. I've found it excellent with salmon.

*PW: Describe the vineyards:*

We own about 10 acres planted to Vidal near the Niagara River within a few miles of Lake Ontario. Elevation is 350 feet. The vines are 8 years old and are all grafted on SO4 rootstock to advance maturity. Because the vine spacing is quite tight (4x8), we are able to get about 1,150 vines/acre, and although we've experimented with the German Pendulum system, the two-wire, four-cane Kniffen has proven best, with higher sugar, higher acid, and lower pH. We prune to 35 buds/vine or about 40,000 buds/acre, and then remove about 60% of clusters to yield approximately 6 tons/acre.

Our 2.5 feet of heavy clay topsoil is tile-drained at 20-foot intervals. The topsoil pH varies from 6.8–7.2 and the underlying subsoil is a heavy black clay called Canadian Till that came about through post-glacial lake deposits.

Fertilization consists of 350 lb/acre of potash and 35 lb/acre of nitrogen applied before bloom, and then 8 lb/acre of nitrogen only applied after bloom. Late nitrogen fertilization is avoided because it softens the skin cells and increases botrytis susceptibility, though this isn't a real problem with Vidal. To control powdery mildew, a total of about 35 lb/acre of sulfur is added over 5 spray applications—pre-bloom, post-bloom, and 3 cover sprays. Less than half that amount of Captan is used for downy mildew at the same intervals, but after 2–3 years of application, it's changed for Phaltan and vice versa. The only additional spraying is a second pre-bloom application of Dikar and Sevin at 3 and 1.5 lb/acre respectively. Because of Vidal's very tough skins, no spraying for botrytis is necessary.

Degree days range from 2,200–2,500, with about 2,400 required for Vidal to reach optimum maturity. Annual rainfall is about 28–29 inches, with 14–17 inches falling during the growing season. In our vineyards the record winter low was -9°F, but temperatures near this extreme last only one or two days. Desiccation and freezing of the buds results. There is a full 60-day potential winter frost damage period from the beginning of January through the end of February, but only about 10 days of potentially hazardous spring frost susceptibility.

Budbreak occurs between May 5 and 10, with berry set taking place between July 5 and 10, and veraison occurs mid-August.

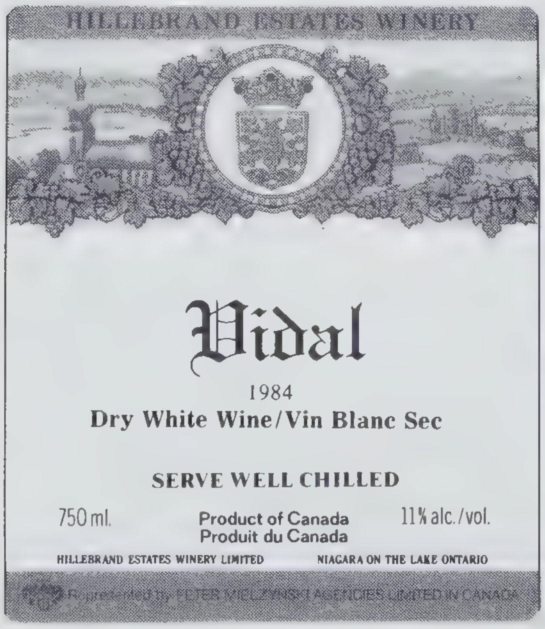
*PW: When are the grapes picked?*

It normally ripens around October 20, but because the exact moment is not crucial, you can bring it in when you have time—hardly scientific, perhaps, but absolutely true. Typical harvest 'window' is 22° Brix, 0.95 g/100mL TA, and 3.1–3.2 pH.

*PW: How is the wine made?*

Grapes are picked either manually or mechanically, depending on our schedule, and receive 30–40 ppm $SO_2$ after crushing. Skin contact is avoided because of the phenolic nature of the variety. Rice hulls, at about 0.2%, are added as a press aid. The must is chilled to 54°F and settled 48 hours, then racked. A 3% inoculum of active-dry Epernay yeast is added. Juice lees are recovered through a lees filter and blended back. At 60–65°F, fermentation takes 14–20 days. The wine is racked twice before Christmas, with free $SO_2$ kept between 30–40 ppm. We've found that frequent checking is not required because Vidal, especially in stainless steel, eats very little $SO_2$. With the assistance of Canadian winters, cold stabilization is carried out at 20–25°F for 2–3 weeks.

For removal of phenolics, a casein fining of 100–150 g/hL and a gelatin/kieselsol fining at 2 g/hL and 10 mL/hL respectively are done. Our heat-stability test is 160°F for 1 hour with an addition of 0.01 g/L of tannic acid. A sterile pad filtration precedes a $0.25\mu$ membrane en route to the bottling line. At bottling, the wine has 25 ppm free $SO_2$ and 120 ppm total $SO_2$.



HILLEBRAND ESTATES WINERY

Vidal

1984

Dry White Wine/Vin Blanc Sec

SERVE WELL CHILLED

750 ml. Product of Canada 11% alc./vol.
Produit du Canada

HILLEBRAND ESTATES WINERY LIMITED NIAGARA ON THE LAKE ONTARIO

Represented by PETER MIELZYNSKI AGENCIES LIMITED IN CANADA

*Andreas Gstaltner*

## HILLEBRAND ESTATES WINERY

*PW: Describe your style:*

**Andreas Gstaltner:** We have found that Vidal, depending on the vintage, can produce several styles of wine well. With a 'regular' harvest, though, I prefer to vinify it virtually dry, in a fresh, crisp style with an emphatic fruity aroma—not unlike some Austrian whites or racy French Sauvignon Blancs.

This is definitely a wine for drinking as soon as possible, when its crisp, fruity character is at its freshest. Nevertheless, about six months of bottle-age will round the wine's 'edges', mellow it out, and add a little complexity. Either way, it's an excellent match with fresh oysters or a warm-weather luncheon.

*PW: Describe the vineyards:*

Grapes for the 1984 Vidal came from the 6.5-acre Seeger Vineyard in Niagara-on-the-Lake. It is on flat land, at 350-foot elevation, and is located approximately one-half mile from the Niagara River and 3 miles from Lake Ontario. Some moderating effects are felt—protection from late frosts, for example—but ripening is more thorough than on lakeshore properties. The 7-year-old vines are spaced 5x8, totaling 1,100 vines/acre all on SO4 rootstock. Four-cane Kniffen training is used. 32–35 buds/vine are left at pruning, and thinning is done to one cluster/shoot to yield about 6.5 tons/acre.

The vineyard soil varies considerably, with heavy clay and sandy loam present in differing proportions. Topsoil depth varies from 1–3 feet and pH is between 6.3–7.1. Subsoil is Canadian Till, a black clay from ancient lake deposits. Fertilizer, in the form of 50 lbs/acre of nitrogen and 280 lbs/acre of potash, is spread in early May after tying. Six sprays are done, including two pre-bloom. Each application consists of 6 lbs/acre of sulfur to control powdery mildew, and 3.5 lbs/acre of Captan or Phaltan to control downy mildew.

2,500 degree days/year is the average. Even in cooler years, Vidal seems to ripen sufficiently, though 'ripe' is a very subjective term. Annual rainfall is approximately 28 inches, with about 16 inches in the growing season. Record winter lows for 1- to 2-day periods reach -10°F and bud-freeze or desiccation of vines can result. Protective snow cover can often be a saving factor. For all of January and February, winter frost is a concern. Potential spring frost damage spans a week or so in early- to mid-May after budbreak. Berry set is normally mid-July and veraison is mid-August.

*PW: When are the grapes picked?*

October 5 to October 15 is our normal harvest time, and sugar/acid levels are the most important factors in determining the exact harvest date. Typical harvest 'window' is 21–23° Brix, 0.90 g/100mL TA, and 3.2 pH.

*PW: How is the wine made?*

Hand-picked grapes are crushed and then sulfured to 50 ppm before pressing. Gentle, short applications of the bladder are programmed because of the phenolic nature of Vidal. Pectic enzyme (at 5mL/hL) and bentonite (at 150 g/hL) are added for a 24-hour settling period at 60°F.

Active-dry Oenoferm *cerevisiae* yeast at 3% inoculum is used in an 8-week fermentation at 65°F, before the first racking. Free $SO_2$ is adjusted to 40 ppm and the wine is cold-stabilized at approximately 28°F for 2–3 weeks. Our heat stability test is 175°F for 30 hours. If necessary, bentonite, at 0–30 g/hL, will be added.

The wine is fined after the winter with 2 g/hL of gelatin and 12 mL/hL of kieselsol. Bluefining, which gives a certain delicacy and softness to the wine, is added as determined by copper and iron analysis. The wine is then DE-filtered and sterile pad-filtered. A $0.45\mu$ membrane filter is used at bottling. The wine has 40 ppm free and 150 ppm total $SO_2$.

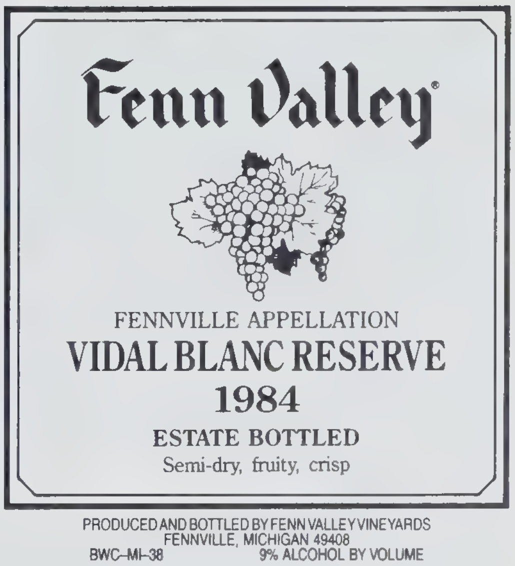
## FENN VALLEY VINEYARDS

*PW: Describe your style:*

**Doug Welsch:** We make two styles. Our original, and most popular style, Vidal Reserve, is very fruity and slightly sweet with a crisp acidity, giving a balance that I term the 'lemonade effect'. This wine, in excellent years, has been compared to Rhine Riesling and in others to a Mosel. The other style, Dry Vidal, is indeed dry and crisp, and shows a dominant fruit character. The best European counterpart for the dry wine would be a blend of Muscat and Riesling from Alsace.

When the wines are released, both styles tend to show a grapefruit character that northern Vidals frequently exhibit. The sweeter version is immediately drinkable, while the dry style is often harsh. The dry version usually has a slightly bitter finish which is masked in the sweeter wine.

*Douglas Welsch*



Fenn Valley®

FENNVILLE APPELLATION

VIDAL BLANC RESERVE

1984

ESTATE BOTTLED

Semi-dry, fruity, crisp

PRODUCED AND BOTTLED BY FENN VALLEY VINEYARDS
FENNVILLE, MICHIGAN 49408
BWC–MI–38 9% ALCOHOL BY VOLUME

Upon ageing, the wines tend to smooth out, with the sweeter version becoming flabby and the dry version quite drinkable. In addition, the sweet version develops a pungent smell, reminiscent of stale fruit, as it continues to age. This character becomes quite noticeable after the wine reaches 18 months old and seems to level off when the wines are 24–30 months old.

For this reason, we only produce a one-year supply of Vidal Reserve and sell it immediately, advising buyers to drink it soon—an ideal cash-flow product. The dry style, on the other hand, seems to age well. Experience shows me that dry Vidals live 8–10 years before beginning to develop any 'stale fruit' aromas.

Since Vidal is eminently drinkable at an early age, a reliable producer and relatively inexpensive to grow, we count on it for a substantial part of our annual income. It is not without its vinicultural faults, however, and high acid and bitter finish are continuing problems in our production.

Our Dry Vidal shows well with fish, chicken, and fatty food without heavy seasoning. The Vidal Reserve is versatile as a before-dinner drink with mild cheese or fruit, or by itself instead of beer.

*PW: Describe the vineyards:*

In 1981, we planted Vidal on its own roots, 697 vines/acre spaced 10x6.25, at 690-foot elevation on a flat, broad ridge about 4.5 miles from Lake Michigan with plantings dating from 1975. Differences among vineyard sites and fruit produced is negligible.

We use 2-arm Kniffen, one trunk/vine, each trained to the top wire, six feet off the ground. The canopy hangs free. Since there is only one arm going each way, there is no shading and the outward/downward growing habits of Vidal give the fruit good sunlight exposure. This system is inexpensive and it works. We tried Geneva Double Curtain (GDC), single cordon, and low head. The present system produces the best and most fruit and is cheap to maintain.

We prune to 16–32 buds on two arms at the top wire. Each arm contains half the bud count going in opposite directions along the top (6-foot) wire. No renewal spurs are left as the base buds of each arm seem to provide sufficiently healthy wood for the following year's arms. We determine the number of buds as follows:

1) 32 buds for long canes and little or no dead wood
2) 28 buds for long canes and some dead wood
3) 22 buds for short canes, or long canes with much dead wood

4) 16 buds for short canes and much dead wood

This is actually a reflection of how well the plant grew the previous year. An average healthy plant should have long canes with some dead wood and carry 28 buds. If a plant was heavily stressed the previous year, as shown by its size and wood condition, then it needs a year's rest to recover; hence, the lower bud count.

During the growing season, we thin to 1.5 bunches/shoot and remove all non-count shoots to give an average yield of 5.4 tons/acre.

The soil is loamy sand, principally 'Hillsdale' and 'Spinks' with a pH of 6.2 at the top and 5.5 at the bottom of 12-inch topsoil. The subsoil is acidic sand with clay lenses having 1- to 3-inch thickness.

In April, we fertilize with 14-10-20 (nitrogen-potassium-phosphorus) applied at 345 lbs/acre and at the end of June, in the post-bloom period, a 33-0-0 is applied at 150 lbs/acre.

We also mulch our vineyards with straw and hay between late July and mid-August. Fertilizer applied to hay ground is picked up by the alfalfa (particularly potash) and is released in the vineyard when the hay decomposes. Mulching also assists in weed control and moisture conservation.

Mulch is applied in a layer approximately 4 inches thick. Decomposing organic matter extracts nitrogen from the soil, competing with the vines for available nutrients, limiting growth and forcing the vine to ripen fruit and prepare for winter. The mulch is fully decomposed by the following spring and we disc the soil to assist with frost control.

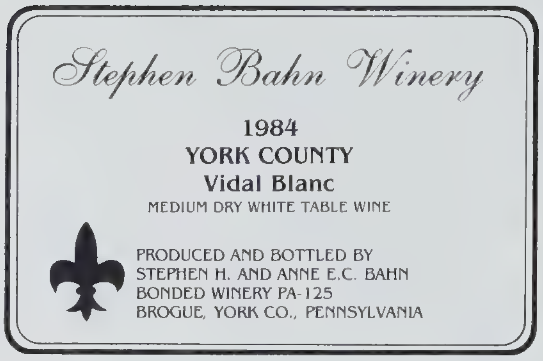
Most of the hay is grown on future vineyard sites. Since alfalfa is a deep-rooted legume, the nutritional status of these sites is enhanced and the clay lenses are penetrated by the alfalfa roots. Once vines are planted, roots can penetrate clay layers by following the old alfalfa root. This actually works! In summer 1984, we exhumed some Riesling plants to study the root system, and found several examples of vine roots penetrating the clay lenses by growing through the dead root tissue of a previous crop (in this case peaches). Vidal vineyards producing the wines in the tasting were mulched in 1982 and 1984.

In the week prior to bloom, Folpet and Sta-Put are applied for blackrot and downy mildew. First bloom spraying is with Bayleton and Dithane for blackrot and downy mildew and Guthion EC for first grape berry moth larvae. In the post-bloom period, early July, Dithane and Bayleton are used again. In late August, Bayleton, Zineb, and Nu Film 17 are applied for blackrot and powdery mildew. These same chemicals are used as required through the end of September after rains to combat the beginning of an outbreak of blackrot or powdery mildew.

For weed control, Surflan is applied mid-April, Round-Up mid–late May, and Paraquat and Widespread in 4-foot bands in mid–late July.

There are about 2,750+ degree days and just over 180 frost-free days in this region. This is pushing the lower limits of ripening for this cultivar. From 80–100 inches of snow falls annually along with approximately 30 inches of rain, about 20 inches coming during the growing season. During May, June, and July, we must have one inch of rain every 10 days or we overhead-irrigate. We cease irrigation in early August.

My experience has shown that Vidal can sustain temperatures to -7°F before primary bud damage occurs. Severe bud and trunk damage begins to occur at -15°F. The coldest recording for our vineyards was -17°F in January 1979. Vidal vines above the snow line produced a good crop. Conditions preceding a cold snap also influence survival. If the vine has 5–10 days gradual cooling, it will survive much colder temperatures than if the temperature comes as a shock to the plant. Large bodies of water tend to moderate temperatures. Nearby Lake Michigan is deep and large enough that it rarely, if ever, freezes over. If weather patterns enter our region from the northwest, temperature extremes are moderated.


*Stephen Bahn Winery*

1984
YORK COUNTY
Vidal Blanc
MEDIUM DRY WHITE TABLE WINE

PRODUCED AND BOTTLED BY
STEPHEN H. AND ANNE E.C. BAHN
BONDED WINERY PA-125
BROGUE, YORK CO., PENNSYLVANIA

*Stephen H. Bahn*

Vidal has a late budbreak, May 1–5, and its potential for frost damage is low. Berry set is June 20–25 and veraison August 20–30. Average daily highs in July and August are 82–87°F and nightly lows 55–60°F.

Vidal's major viticultural problems are that it is subject to trunk damage and needs thinning to prevent overcropping.

*PW: When are the grapes picked?*

Vidal uses our entire growing season to ripen. In fact, we are probably at the northern fringe of its growing region. As such, the real criterion for picking is the first anticipated killing frost date, which is usually between October 20–November 1. Because it is so cool and ripening is occurring so slowly, the harvest window is quite broad.

We just let the grapes get as ripe as possible and take whatever nature gives us that year. This does give a great degree of variability in our wine quality from year to year. Only in an occasional year does this variety see a whole growing season and reach full maturity in our district.

From 1980–1984 I kept exact records; °Brix range from 18.11–22.10, with TA between 0.99–1.22 g/100mL, and pH of 3.08–3.30, but this does not tell the whole story, since the highest pH and highest TA occurred in the same year! Making wine from this variety has presented a challenge.

*PW: How is the wine made?*

Hand-picked grapes receive 70 ppm $SO_2$ at crush. Pectic enzyme is added after pressing with a bladder press in which 1% rice hulls are used as a press aid. After centrifuging to less than 1% solids, the juice is settled at 50°F overnight and racked before yeast inoculation.

Fermentation lasts 14–16 days for the Reserve wine and 22–28 days for the dry style. During the first 14 days or to 4° Brix level, the must is kept between 51 and 56°F. Temperatures are slowly elevated to 65°F. When the fermenting must reaches 10° Brix, 4 lb/1,000 gal of bentonite is added.

First racking is done when the desired r.s. level is reached. 40 ppm $SO_2$ are added. A second racking is done in 2–3 weeks and an addition of 15 ppm $SO_2$ is made. For the 1984 dry-style wine, fining with 0.8 lb/1,000 gal casein was done between the first and second racking. This helped in eliminating the bitter finish problem, but not entirely. An additional racking is made after the cold stabilization period.

The wine is cold-stabilized at ambient winter temperatures for 30 days, then filtered with tight pads off the tartrate crystals. A standard TCA heat stability test is done during cold stabilization to see if the fining treatment done during fermentation was adequate. The wine passes through a $0.45\mu$ membrane cartridge on the bottling line.

## STEPHEN BAHN WINERY

*PW: Describe your style:*

**Stephen Bahn:** Maximum extract from skin contact yields a wine with a richer style rather than plain fruitiness. I call this 'Alsatian' rather than 'Germanic' style. While the aroma of Vidal is full, body tends to be on the light side and blending with Seyval adds body and enriches mouthfeel.

At bottling, it is still quite fruity and needs a year to integrate in the bottle. Youthful floweriness, reminiscent of Riesling or Vouvray wines, becomes complex after 2–4 years bottle ageing to show fully ripe fruit flavors with honey-like richness.

In this style, any fowl, chicken in cream sauces, choucroute garni, lightly smoked turkey, fresh and smoked sausages in the Pennsylvania Dutch tradition, chicken pot pie or any fresh fish with a light cream sauce are well-complemented.

*PW: Describe the vineyards:*

Grapes are purchased from Seven Valleys Vineyard, Glen Rock, PA, at 800 feet elevation on 8–10% slopes with southern exposure. The vines were planted in 1976 on their own roots and trained originally on 4-arm Kniffen (FAK), 630 vines/acre, spaced 7x9.5 feet. Vines are now being converted to a 'no-tie' single curtain cordon (SCC), 6 feet high. FAK is being converted to SCC because it is cheaper to maintain, easier to prune and affords better air circulation and better fungicide penetration. FAK gives a heavy, dense, unmanageable canopy.

Based on individual vine vigor, the vines are pruned to 36–40 buds/vine. Hand cluster-thinning prior to bloom to 2 clusters/shoot controls crop size to approximately 6.5 tons/acre; the range is a low of 5 and a high of 9 tons/acre. Topsoil, 10–12 inches, is well-drained Chester loam with a pH of 6.5–6.9, with Chester silt-loam subsoil.

Two weeks prior to budbreak, about the third week of April, the vineyards are fertilized with 46% urea at 170 lb/acre.

In both early and late May, Manzate 200 is applied as a new shoot and pre-bloom spray. Around June 22, in the post-bloom period, Manzate 200, Bayleton and Sevin 50 are applied. This treatment is repeated mid-July as first cover treatment. Around July 24 and again one month later, Paraquat and X-77 are used for weed control. In both early and late August, as the second and third cover spray, applications of Dithane M22, Bayleton, and Sevin 50 are made.

The annual range of degree days in this region is between 2,500–2,900. Somewhere between 2,500–3,100 are needed for full ripening. Annual snowfall averages 30 inches and annual rainfall is 45 inches with about 25 inches coming during the growing season.

Winter lows of -12°F for 24–48 hours can cause primary and secondary bud damage. Bud damage is also possible during the frost danger period, May 8–15. Berry set is in mid-June, followed by veraison in mid-August.

*PW: When are the grapes picked?*

The first week of October is the normal period for picking Vidal in southern PA. Brix readings range from 21–22° with TA of 0.8–0.85 g/100mL and pH between 3.0 and 3.1. The desired sugar/acid ratio is 25 - 30:1. These numbers, together with overall taste and fruit soundness, generally determine picking time. Threats of late-autumn extended wet periods or early first frost must also be considered within these parameters.

Seyval, used in the blend, is picked in early September with these parameters: 20–21° Brix, about 1.0 g/100mL TA, and pH around 3.0.

*PW: How is the wine made?*

Hand-picked grapes receive 50–75 ppm $SO_2$ and pectic enzyme at crush. 12–14 hours skin contact is given at ambient temperature. Juice is settled 24 hours at ambient temperature and racked before yeast inoculation. Juice lees are settled and racked again. If clean, this portion is blended into the main cuvée after fermentation.

As opposed to most Vidal producers, we ferment warmer, 65–70°F, hoping to obtain a more complex wine. The fermentation period lasts 2 - 2.5 weeks. Five days after dryness we do the first racking and then rack again in one month and three months, maintaining 20–30 ppm free $SO_2$ by weekly checks and additions as required.

After the second racking, we do a heat stability test. A portion of wine is heated to 150°F and tested for flocculation for 12 hours after re-chilling. If necessary, bentonite is added at the rate of 2–3 lb/1,000 gal. The final blend with Seyval (about 10%) is made after this.

The wine is chilled to 25°F for cold stabilization, and is then stirred and held 24 hours before racking off tartrates. A $1.0\mu$, 10-inch cylinder is used for filtration off the tartrates. At bottling, seven months after harvest, a $0.45\mu$ membrane cartridge is ahead of the filler.

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## VIDAL WINEMAKING SUMMARY
## SEPTEMBER–OCTOBER 1986

| WINERY | HARVEST CRITERIA | JUICE TREATMENTS | FERMENTATION LENGTH/TEMP. YEAST | FINISHED WINE TREATMENTS | | FINISHED WINE STATISTICS |
|---|---|---|---|---|---|---|
| | | | | FINING | FILTRATION | |
| **Stephen Bahn Winery**<br>*Stephen Bahn* | 21–22° Brix<br>0.8–0.85 TA<br>3.0-3.1 pH | pectic enzyme<br>12–14 hours<br>skin contact,<br>ambient | 1% active-dry<br>Epernay 2<br>2–2.5 weeks<br>65–70°F | 2-3 lb/<br>1,000 gal<br>bentonite | 1.0μ off<br>tartrates.<br>0.45μ at<br>bottling | 11.5% alcohol, 1.0% r.s.<br>0.75 TA, 3.1 pH<br>$SO_2$: 35 ppm free, 150 ppm total |
| **Boordy Vineyards**<br>*Robert Deford* | 20–22.5° Brix<br>0.85–1.0 TA<br>3.25–3.35 pH | none | )5% active-dry<br>Montrachet<br>2 weeks<br>58–68°F | 2 lb/<br>1,000 gal<br>bentonite | coarse &<br>fine pad<br>filter; 0.45μ<br>depth and<br>sterile cartridges | 11.8% alcohol, 2.0% r.s.<br>0.85 TA, 3.38 pH<br>$SO_2$: 28 ppm free |
| **Chalet Debonne Vineyards**<br>*Tony Carlucci* | 21–24° Brix<br>0.9–1.1 TA<br>3.1–3.25 pH | none | 1% active-dry<br>Epernay 2<br>6 weeks<br>50–55°F | none<br>required | coarse DE<br>0.45μ at<br>bottling | 10.3% alcohol, 3.32% r.s.<br>0.9 TA, 3.25 pH<br>$SO_2$: 45 ppm free, 96 ppm total |
| **Fenn Valley Vineyards**<br>*Doug Welsch* | 18–22° Brix<br>0.85–1.25 TA<br>3.05–3.35 pH | pectic<br>enzyme; | 1 kg/2,000 gal<br>active-dry<br>Epernay 2<br>reserve:<br>14–16 days<br>dry: 22–28 days | 4 lb/<br>1,000 gal<br>bentonite | tight<br>pads<br>and 0.45μ<br>at bottling | reserve:<br>7.19% alcohol, 3.26% r.s.<br>0.8 TA, 3.26 pH<br>$SO_2$: 17 ppm free, 129 ppm total<br>dry:<br>9.08% alcohol, 0.5% r.s.<br>0.77 TA, 3.16 pH<br>$SO_2$: 31 ppm free, 111 ppm total |
| **Franklin Hill Vineyards**<br>*Charles Flatt* | 22–24° Brix<br>1.0–1.2 TA<br>3.1–3.3 pH | pectic<br>enzyme | 1% active-dry<br>Epernay 2<br>40 days 65°F | 2 g/gal<br>bentonite | 0.45μ off<br>bentonite and<br>at bottling | 11.8% alcohol, 3.0% r.s.<br>0.79 TA, 3.09 pH<br>$SO_2$: 56 ppm free |
| **Great Western**<br>*Patty Heron* | semi-sweet:<br>20–21.5° Brix<br>0.73–0.8 TA<br>3.2–3.3 pH<br>late harvest:<br>21.2–24° Brix<br>0.78–0.9 TA<br>3.2–3.34 pH | pectic<br>enzyme;<br>late harvest:<br>1-2 hours skin<br>contact,<br>ambient | 0.2% active-dry<br>Epernay<br>11–14 days<br>55–60°F | 2 lb/1,000 gal<br>bentonite;<br>1 lb/1,000 gal<br>Polyclar<br>AT | coarse<br>pads; tight<br>polish<br>filter;<br>0.45μ at<br>bottling | semi-sweet:<br>10.4% alcohol, 1.8% r.s.<br>0.795 TA, 3.25 pH<br>$SO_2$: 48 ppm free, 152 ppm total<br>late harvest:<br>9.5% alcohol, 4.2% r.s.<br>0.818 TA, 3.36 pH<br>$SO_2$: 48 ppm free, 156 ppm total |
| **Hillebrand**<br>*Andreas Gstaltner* | 21–23° Brix<br>0.9 TA<br>3.2 pH | pectic<br>enzyme;<br>bentonite;<br>24 hours skin<br>contact, 60°F | 3% active-dry<br>Oenoferm<br>8 weeks<br>65°F | 0–30 g/hL<br>bentonite;<br>2 g/hL<br>gelatin;<br>12 mL/hL<br>kieselsol; bluefining | DE &<br>sterile pad;<br>0.45μ<br>at bottling | 12.1% alcohol, 0.4% r.s.<br>0.85 TA, 3.35 pH<br>$SO_2$: 40 ppm free, 150 ppm total |
| **Inniskillin**<br>*Karl Kaiser* | 22° Brix<br>0.95 TA<br>3.1–3.2 pH | none | 3% active-dry<br>Epernay<br>14–20 days<br>60–65°F | 100–150 g/hL<br>casein;<br>2 g/hL<br>gelatin;<br>10 mL/hL<br>kieselsol | sterile pad<br>0.25μ at<br>bottling | 11.5% alcohol, 1.7% r.s.<br>0.71 TA, 3.25 pH<br>$SO_2$: 25 ppm free, 120 ppm total |
| **Mount Pleasant**<br>*Lucian Dressel* | 19–20.5° Brix<br>0.7–0.9 TA<br>3.15–3.30 pH | pectic<br>enzyme | 2 lb/1,000 gal<br>active-dry<br>Epernay 2<br>2 weeks 60–62°F. | 1 lb/1,000 gal<br>Sparkaloid | SWK 80 pads | 13.1% alcohol, 0.01% r.s.<br>0.65 TA, 3.2 pH<br>$SO_2$: 22 ppm free, 45 ppm total |
| **Reif Winery**<br>*Ewald Reif* | 22° Brix<br>0.9 TA<br>3.15 pH | none | 20 g/hL<br>active-dry<br>Epernay<br>5–10 days<br>60°F | bentonite;<br>5 g/hL<br>gelatin;<br>20 mL/hL<br>kieselsol | polish pad;<br>0.25μ<br>at bottling | 11.7% alcohol, 1.45% r.s.<br>0.7 TA, 3.25 pH<br>$SO_2$: 55 ppm free, 142 ppm total |
| **Sakonnet Vineyards**<br>*Jim Mitchell* | 19–20.5° Brix<br>0.95–1.2 TA<br>3.2–3.25 pH | pectic<br>enzyme | 1.5% liquid<br>Steinberg +<br>1 lb/1,000 gal<br>active-dry<br>Epernay 2<br>10–30 days<br>50–52°F | none | coarse<br>filter; tight<br>filter before<br>bottling | 11.9% alcohol, 0.6% r.s.<br>0.9 TA, 3.3 pH<br>$SO_2$: 30 ppm free, 85 ppm total |

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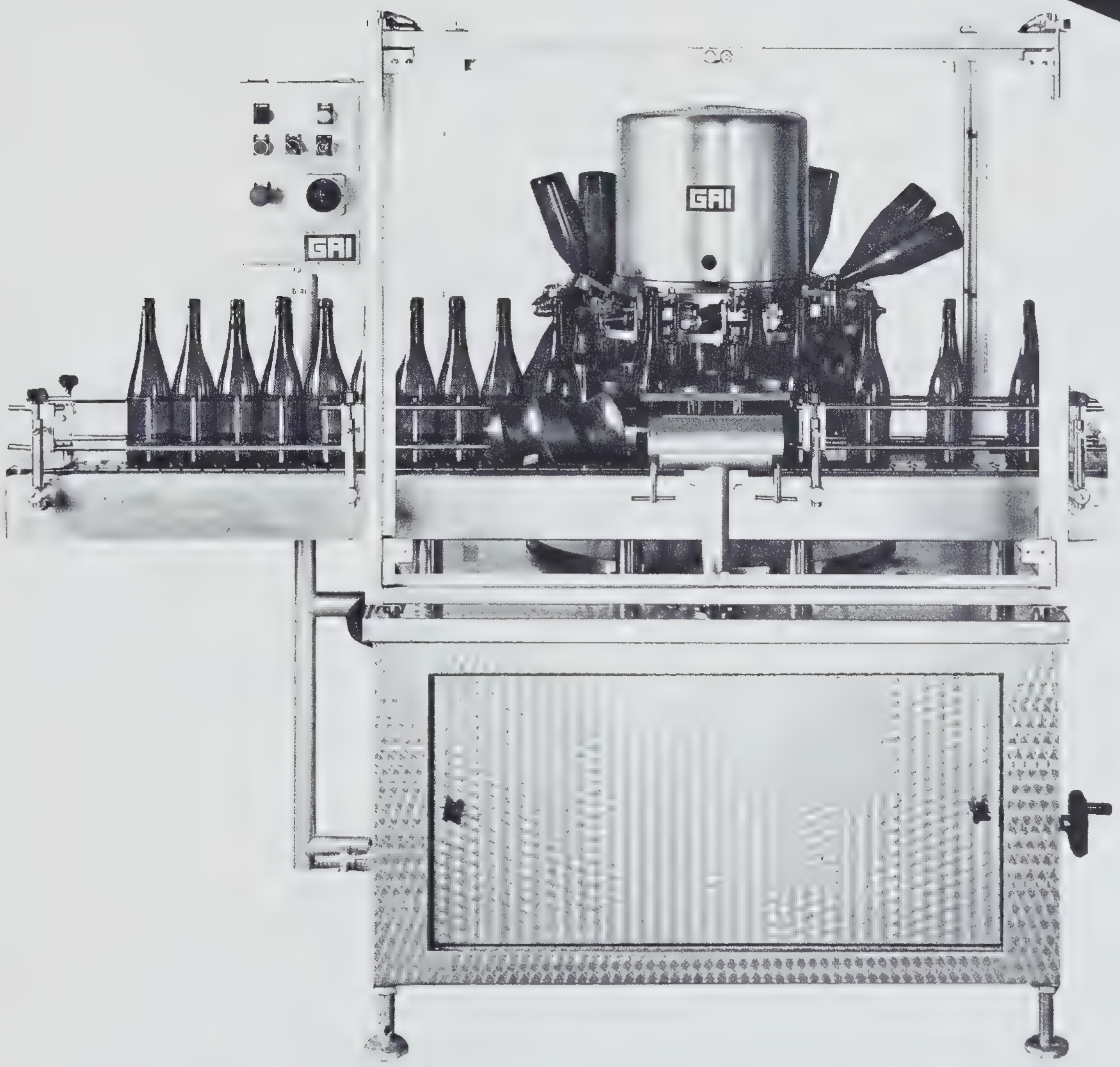

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# Vidal Tasting Notes

Tony Carlucci, *Chalet Debonne Vineyards, OH*
Charles Flatt, *Franklin Hill Vineyards, PA*
Jack Foster, *Cedar Hill Wine Co., OH*
Peter Gamble, *Hillebrand Estates Winery, Ltd., ONT*
Andreas Gstaltner, *Hillebrand Estates Winery, Ltd., ONT*
Eleanor Heald, *PRACTICAL WINERY*
Ray Heald, *PRACTICAL WINERY*
Tim Holt, *Anheuser Busch, MO (former senior winemaker, Great Western, NY)*
G. Stanley Howell, *Dept. of Horticulture, Michigan State University, MI*
Karl Kaiser, *Inniskillin Wines, Inc., ONT*
Diane W. Mayfield, *PRACTICAL WINERY*
Dick Naylor, *Naylor Wine Cellars, PA*
Ewald Reif, *Reif Winery, ONT*
Tom Wykoff, *Cedar Hill Wine Co., OH*

*Winemakers interviewed were invited to submit a sample of 1984 Vidal and, where possible, an older vintage. Wines are listed in the order they were tasted and discussed.*

*PRACTICAL WINERY thanks Hillebrand Estates Winery, Ltd., in Ontario, Canada, for hosting the tasting.*

### Chalet Debonne Vineyards, Ohio (1984)

*Comments before the unveiling:*

*Naylor:* Manufactured quality. Strange spicy aroma that was raisiny/candy, but balance was good.

*Foster:* Lemony aroma changed to spicy flavors with a good finish, but there's some manufactured/medicinal quality.

*R. Heald:* I detected medicinal character, but it changed to a spiciness. What is causing this?

*Wykoff:* Extremely high alcohol is giving that medicinal character. I think these grapes were quite ripe.

*E. Heald:* Are you saying very ripe or overripe?

*Wykoff:* Not biologically overripe, but high Brix level. If you pick at relatively low Brix, you can chaptalize and put the wine through ML for acid reduction, avoid the high alcohol and medicinal quality. The resulting wine is fresh, fruity, and dry in a more Burgundian than Germanic style. You can then give it some oak ageing for added complexity.

*Holt:* I got an oxidized character that develops in older Vidals and those made from overripe fruit.

*Comments after the unveiling:*

*Carlucci:* There were problems completing fermentation and the grapes did have a high Brix level, about 22°, but the alcohol is not that high—just over 10%.

**Color/Aroma:** Medium straw. Fruity, spicy, cloves, raisins, artichokes, asparagus, Chardonnay-like, medicinal.

**Flavors:** Fruity, spicy, artichokes, floral, slightly oxidized, slight botrytis.

**Balance/Finish:** High acid, slightly sweet, balanced, off-dry. Medium-long finish. Wine changed considerably with airing.

### Sakonnet Vineyards, Rhode Island (1984)

*Comments before the unveiling:*

*Holt:* It shows very good Vidal character. It was obviously spritzy from residual fermentation $CO_2$ and has a low pH. It finishes with some bitterness, but it is a nice wine.

*Wykoff:* I picked up something in this wine that I didn't in any of the others—pine needles.

*Naylor:* Exactly, pine needles.

*Wykoff:* The aroma is pleasant, but it finishes objectionably bitter.

*Carlucci:* $CO_2$ accentuates the bitterness.

*Howell:* It reminds me of a young Muscat.

*Welsch:* I have grapefruit written all over my notes.

*Naylor:* I think that the Brix was too low to start—basically unripe fruit.

*Foster:* Low Brix and high malic acid would account for the rough finish.

*E. Heald:* It was mentioned that this wine had good Vidal characteristics. Please explain what you mean by that.

*Howell:* We've been making wine experimentally from this grape since 1971 and have manipulated it with at least a dozen different yeasts, 3–4 fermentation temperatures, and turned out a dozen styles. There are two basics that stand out: (1) a white Burgundy, less obvious fruit-style wine, that Wykoff mentioned, from warmer fermentation temperatures, giving a vinous aroma and stronger flavors; (2) perhaps most common and the best-selling style, but not necessarily the favored style among winemakers, is characterized by this wine. It is a fruity wine that is best when young and holds its character two years at best—more like 1–1.5 years from harvest. It has Muscat and Riesling similarities if you keep fermentation temperatures low.

Jim Gallander's work in Ohio shows rather specifically that this grape is best when not taken to a high sugar level, although I have tasted ice wines that have been pleasant.

At its best, Vidal is very *vinifera*-like, but generally slightly sweet because TAs are commonly 0.9–1.4 g/100mL and the winemaker is forced to either make acid adjustments, which they don't like, or stop fermentation and produce a less dry wine. Winemakers can make this wine with lower alcohols, which is very pleasing to the consumer.

*Wykoff:* One reason why it is difficult to produce Vidal with late-harvest characteristics is that the Vidal grape skin is so tough that you need extreme conditions to get botrytis infection. I still contend that when Vidal is made as a Germanic-style table wine, it does not age. It reaches its peak at bottling. Within 6 months, it is on its way down.

*Comments after the unveiling:*

*Naylor:* High malic acid fits the bill for New England wine. I also think the fruit came from young vines.

*Howell:* I'd like to make an additional comment to my Vidal characteristics description made earlier. When we've held Vidal for later harvest or if we've used a training system and canopy management giving maximum sun exposure to the fruit, the grapes develop with a nice bronzing. But even when you have good crop control, you almost invariably have difficulties. It is easy to get 22° Brix and be near a pH of 4 with this variety. I think it may be the high pH that is causing problems during fermentation.

*E. Heald:* What is the training/trellising and canopy management you are referring to?

*Howell:* GDC or really any other cordon system in which shoot positioning gives maximum sunlight to the fruit.

*Wykoff:* Carl Haesler (Pennsylvania State University) has commented on this. Fruit quality is plainly different in southeastern Pennsylvania from that grown in Erie County, near Lake Erie. But this grape has high TA no matter where it's grown. Southeastern Pennsylvania and western Michigan have relatively high temperatures during the growing season. Lake Erie appellation is much cooler and the pH is 2.9. I think it has to do with temperatures during the growing season more than anything else.

**Color/Aroma:** Pale, straw. Delicate citrus fruit, cedar/pine needles, floral, spicy, persistent grapefruit bouquet.

**Flavors:** Spritzy, objectionable bitterness, high acid masking fruit. Improved flavors with airing.

**Balance/Finish:** Tart, crisp, clean. Rough finish.

### Fenn Valley Vineyards, Michigan (1984 Dry Vidal)

*Comments before the unveiling:*

*Flatt:* It smells and tastes like peaches. I think the alcohol may be low and I find that pleasant in Vidals. It is a well-made wine.

*R. Heald:* Is there a way we can link the peachy character to the viticultural or vinicultural techniques?

*Flatt:* Low-alcohol Vidals are generally more fruity and show a peach/apricot character. I'd guess the fermentation was stopped also.

*Welsch:* I pick up a bitterness in the finish. I also get the peach or apricot quality. It does not exhibit strong Vidal character. The Sakonnet wine had greater Vidal character.

*Naylor:* I believe this is on target for a dry Vidal. The light, floral (violets) nose is attractive and very Vidal-like. It may be a bit thin, but it is a very good food wine.

*Comments after the unveiling:*

*Welsch:* I did the same thing with this wine that I did in 1983 and the wines are totally different. I can't explain it except to say it has vintage variation. It does have low alcohol as was suggested, but it is not, right now, what I set out to produce.

**Color/Aroma:** Pale, straw. Violets, peaches, apricots, grapefruit. Diminished nose with airing.

**Flavors:** Peaches, citrus characters, very dry.

**Balance/Finish:** Tart, clean, definitive style. Some bitterness.

### Hillebrand Estates Winery, Ltd., Ontario (1984)

*Comments before the unveiling:*

*Dressel:* Very floral and to me smells exactly like French Colombard. It cleanly comes away without French hybrid character.

*Howell:* I got a petroleum character that reminded me of an older wine.

*E. Heald:* Germanic-style wines have been referred to. Is this one?

*Wykoff:* Absolutely. It has been cold-fermented in stainless steel, hasn't seen any wood, and finished off with some residual sugar. There is more to the nose of this wine than there is to the mouth and the acid is too high.

*Gamble:* Acid is accentuated by high $SO_2$ levels. I think this wine was bottled very recently.

*Comments after the unveiling:*

*Gamble:* Cold, slow, long fermentation in stainless finished only in December. High acid finish deliberate.

**Color/Aroma:** Straw yellow. High level $SO_2$. Pineapples, grassy, fruit salad, petroleum, grapefruit, melons.

**Flavors:** More nose than mouth qualities. Full, rich. Stemmy. Good, uncomplicated wine.

**Balance/Finish:** Good balance, clean.

### Great Western, New York (1984)

*Comments before the unveiling:*

*Foster:* Lean, lemony, Germanic style again.

*Wykoff:* Good acid/sugar balance and in its style is well-made. It will be very appealing to the consuming public. Made to drink now and not to age.

*Dressel:* It's perfumy.

*Carlucci:* Complex stone fruit and tropical fruit nose.

*Gamble:* This wine says Vidal from start to finish. Everything is in balance.

*Wykoff:* It comes more alive with time in the glass.

*Kaiser:* This is the way I define Vidal. I think it will hold longer than has been predicted.

*Naylor:* It is colorless, like water. That's typical of a well-handled Vidal.

*Comments after the unveiling:*

*E. Heald:* Epernay yeast was used for this wine. Was fermentation deliberately stopped?

*Holt:* Yes. We added $SO_2$ and chilled to 30°F. I like Epernay 2 yeast. It gives good, clean fruit flavors. Stuck fermentations are a problem, however, and I only use it if I know that I am going to stop fermentation.

*Welsch:* Because of arrested fermentation problems, I start warming up the wine once it gets to 3° Brix and I can get Epernay 2 to pass through the last 1° Brix. How was this wine fined?

*Holt:* With bentonite and PVPP at the same time. PVPP compacts the lees and pulls out some of the bitterness that has been mentioned. We do tend

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to get bitterness from our Vidal vineyards and this treatment eliminates it.

*Foster:* Casein or isinglass does this well also. We do this kind of fining as a matter of practice now to eliminate bitterness.

*Holt:* I wouldn't do that because you are introducing a potential protein problem. PVPP is a synthetic material without problems.

*Wykoff:* I think what you decide to use is predicated on what you want for the final taste of the wine. Fining trials should be done each year. The final treatment should be with whatever made the wine taste best. That's what I'd go with rather than avoiding protein stability problems altogether.

**Color/Aroma:** Pale. Grapefruit, citrus/floral, pineapples, lemons.

**Flavors:** Melon, apricot, lemon. Fruit character of aroma carries through to taste.

**Balance/Finish:** Good balance, crisp, clean. Medium-long finish. Good, commercial Germanic-style Vidal that's ready to drink.

### Reif Winery, Ontario (1984)

*Comments before the unveiling:*

*Welsch:* A petroleum smell blew off, but green pepper is still there. Wines that aren't handled tend to be fresher than this.

*Foster:* The bell pepper is gone now, too.

*Kaiser:* I agree. This wine is commercially acceptable.

*Gamble:* It's floral and has a good middle body.

*Naylor:* It has young-vine character.

*Wykoff:* An attempt at making dry Germanic wine which just doesn't exist.

*Naylor:* It does now. The Germans call them *'trocken'* right on the label.

*Wykoff:* OK, but they taste out of balance and this is out-of-balance the same way. Sweet reserve or residual sugar in some manner would make this wine better.

**Color/Aroma:** Light straw. Petroleum, green pepper, vegetal character blows off with airing. Roses, bananas. Underripe fruit character.

**Flavors:** Filter pad. Floral, hinting of roses, mechanical. Lemony. 'Handled' and lacking freshness.

**Balance/Finish:** Good fullness through middle, soft, slightly bitter aftertaste.

### Franklin Hill Vineyards, Pennsylvania (1984)

*Comments before the unveiling:*

*Flatt:* I like it because it is not overly varietal or overly anything—a subtle, neutral wine that I enjoy. I got some pear character that I usually associate with Seyval, but I'd still recognize it as Vidal.

*Wykoff:* I like it because it's full-bodied. I get pears and apricots. It is a superb wine and as a non-Germanic-style winemaker, I'd be happy to make this Germanic style.

*Comments after the unveiling:*

*Flatt:* I had troubles with the fruit—high Brix, but also high acid. I also had trouble finishing the fermentation to the level I wanted. I was upset at 2.2° Brix. I coaxed it, moved it along a little and just dealt with what I got; cleaned it up and got it into the bottle as soon as I could.

**Color/Aroma:** Medium straw. Apples, grapefruit, pineapple, peach, pear, apricot.

**Flavors:** Flavors in harmony with aromas. Citrus, clean, fruity.

**Balance/Finish:** Clean, 'Germanic' style. Well-balanced, full body, ongoing finish.

### Inniskillin Wines, Ontario (1984)

*Comments before the unveiling:*

*Holt:* It was a little closed-in at the start and had a bitter aftertaste.

*Welsch:* I got caramel and butterscotch, and a bourbon taste.

*Naylor:* It tastes watered-down.

*Comments after the unveiling:*

*Kaiser:* This is an experiment that went through malolactic fermentation.

*Wykoff:* Why doesn't it have malolactic character?

*Kaiser:* Perhaps because it wasn't in wood, only in stainless steel.

*E. Heald:* I've tasted your 1983 wine, Karl (Kaiser), and this is very different.

*Kaiser:* This is what malolactic fermentation with a Swiss culture does. The 1983 wine did not undergo ML. You can blame it on Tom Wykoff. Discussions with him caused me to experiment.

*E. Heald:* Tom (Wykoff), you've been doing malolactic fermentation with Vidal for years and your wine tastes nothing like this. What do you do?

*Wykoff:* We handle it differently. First, we barrel-ferment and we keep it in wood for at least a year and sometimes longer before it's bottled. An ML wine only starts to live after the first year. This wine has only been bottled for 3 months and ours is still in wood.

**Color/Aroma:** Brilliant, pale straw. Oranges. Fabricated. Caramel, butterscotch, cooked cabbage, peach pits.

**Flavors:** Slight spritz. Bourbon-like. Overripe bananas. Doctored/treated. Toast.

**Balance/Finish:** Good flavors through middle. Balanced, weak, bitter aftertaste.

### Boordy Vineyards, Maryland (1984)

*Gamble:* Vinous, but lacking definitive characteristics. It's a neutral style.

*Welsch:* I got bananas in the taste.

*Mayfield:* It's in the nose, too.

*E. Heald:* This is the first wine with banana character.

*Welsch:* I've had some yeasts produce this character, not only in Vidal, but other white French hybrids as well. It ruins the whole batch with strange esters. I think there was a foreign yeast present.

**Color/Aroma:** Very pale straw. Vinous, bananas, cotton candy, honey, pears, cooked fruit, floral. Nose fades quickly.

**Flavors:** High alcohol. Better than conflicting aromas, one-dimensional, slightly hot, overripe melons.

**Balance/Finish:** Balanced, but finishes fast.

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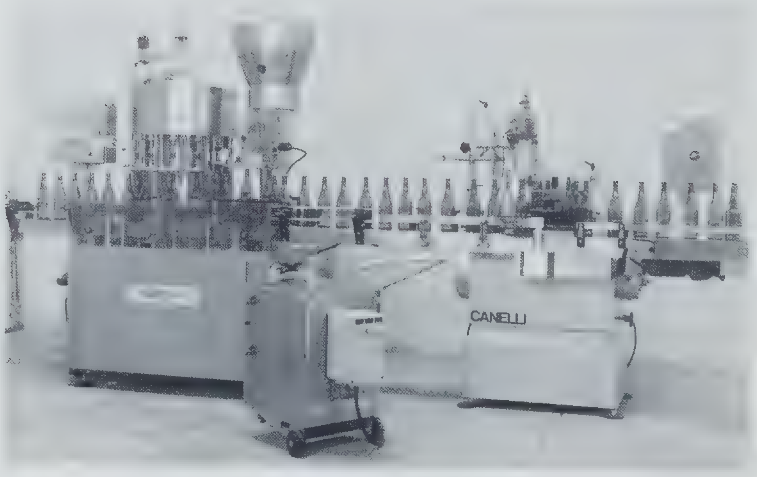

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### Sakonnet Vineyards, Rhode Island (1983)

*Gamble:* It's a Rheinpfalz, trocken style. The nose leads you to expect some sugar and then it surprises you because it's dry. I don't recognize it as Vidal.

*Naylor:* I get cooked peas and asparagus in the nose and taste. I also suspect high malic acid.

*R. Heald:* Sauvignon Blanc develops this character when underripe. Is Vidal similar?

*Wykoff:* Yes, you get a lot of those characteristics from underripe Vidal. We've already mentioned grassiness, herbaceous characters, vegetative qualities, and green peppers.

**Color/Aroma:** Straw. Herbaceous, lemony, cooked peas, spinach, $H_2S$, olives fading into tobacco, cooked asparagus.

**Flavors:** Vegetative taste of asparagus and spinach. Cooked lemon peel. Spritzy.

**Balance/Finish:** Tart, slightly astringent, hard, bitter finish.

### Mount Pleasant Vineyards, Missouri (1983)

*Comments before the unveiling:*

*Holt:* I got some VA in the background and slight oxidation also.

*Welsch:* It has an aged apricot taste. It has a little VA in the nose, but I like the overall style.

*Carlucci:* I got a metallic nose.

*Howell:* It's in transition from a fruity wine to a more complex, vinous wine. We caught it in mid-stride; we're getting characteristics of both and that's why we have such variance of opinion.

*Comments after the unveiling:*

*Dressel:* Metallic is a description, but this wine developed a stale or wet tobacco aroma in my opinion. Many of our hybrids do that—both red and white.

*E. Heald:* Lucian (Dressel), you must taste other Missouri Vidals. Are other producers having the same problems you are?

*Dressel:* There are not that many Missouri wineries producing varietal Vidal. Some people keep it in wood so long that everything is masked. That's not my way. This wine barely saw the forest in passing.

*E. Heald:* Are you happy with Vidal in Missouri?

*Dressel:* Not yet.

*E. Heald:* In your opinion, what is the best French hybrid for Missouri?

*Dressel:* Seyval. Vidal is just one of those grapes where the fruit looks good and then it just never produces.

*E. Heald:* Have you done any experimentation with different training systems or varied the canopy management?

*Dressel:* We've done several things different at varying times and it does not change the character of the wine.

*Carlucci:* Is it too hot in Missouri for Vidal?

*Dressel:* Seyval ripens a couple of weeks before Vidal. No, I don't think it's too hot.

**Color/Aroma:** Medium straw. High VA. Tobacco, straw, hay, barley, grain-like, musty, metallic. Questionable mercaptans.

**Flavors:** Aged apricot, garlic. Better taste than aroma.

**Balance/Finish:** Wine in transition. Showing age. Good body, lingering flavors through finish.

### Stephen Bahn Winery, Pennsylvania (1983)

*Howell:* Fruity, complex, good balance, clean finish—a nice wine and I liked it.

*Carlucci:* Honey in the nose and caramelized characters agree with a slight oxidation to make a more complex wine.

*Holt:* It has good balance and a soft, complex finish. The nose is very interesting. I think that it has seen wood and been through ML.

**Color/Aroma:** Medium-dark straw. Honey, pears, apricots, candy apples, complex fruit.

**Flavors:** Showing age. Butterscotch, caramelized character. Lacking fruit. Buttery, complex. Attempt at different style.

**Balance/Finish:** Pleasant, full body. Sugar masking bitterness. Flat, short finish.

### Chalet Debonne Vineyards, Ohio (1984 Late Harvest)

*Carlucci:* Fruity, clean varietal grapefruit character with good balance and finish.

*Naylor:* I think it has sweet reserve added back.

*Wykoff:* Not spectacular, but good commercial wine.

*Howell:* I think it's delightful.

**Color/Aroma:** Pale straw. Floral/citrus combination.

**Flavors:** Straight citrus. Pineapples. Floral, peaches, apricots. Flavors agree with aroma.

**Balance/Finish:** Well-balanced in sweet style, keeping full Vidal character. Lingering full finish.

### Fenn Valley Vineyards, Michigan (1984 Reserve)

*Comments before the unveiling:*

*Foster:* I got linalool in the aroma and it had a good finish, but I got a malic acid sensation afterwards.

*Wykoff:* Regardless of what the sugar is on the label, this wine is not a dessert style.

*Comments after the unveiling:*

*Welsch:* I've been making Vidal in this style since 1976 and it is our number-one seller. The 1984 is probably the worst vintage I've made in six years. Generally, Vidal is pretty consistent, but I have had some off-years.

*Wykoff:* I'm absolutely convinced now that the sweeter styles just don't age well.

*Welsch:* Michigan-produced dry styles do have ageing potential.

**Color/Aroma:** Pale straw, Floral, linalool, but generally faint nose.

**Flavors:** Muscat, raisins, Botrytis characters. Fruity, citrus-like.

**Balance/Finish:** Slightly rough, malic acid sensation. High acid. Watery.

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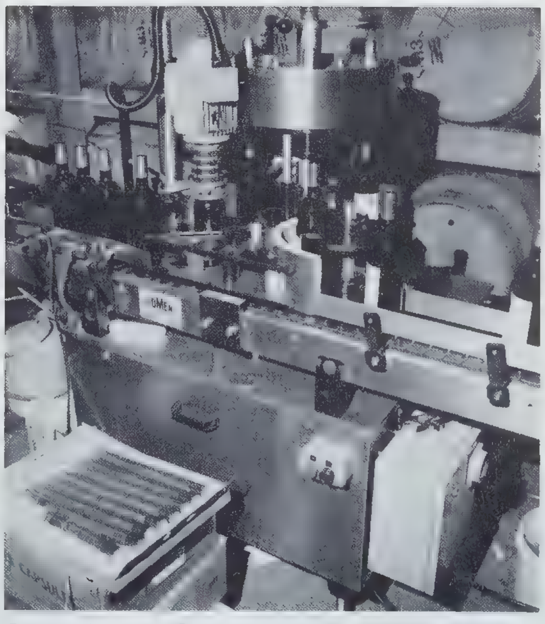

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### Great Western, New York (1984 Late Harvest)

*Comments before the unveiling:*

*Naylor:* It's simple, well-made wine. Middle-of-the-road, but should have good commercial acceptance.

*Carlucci:* Very perfumy nose.

*Foster:* Excellent lingering finish.

*Wykoff:* Saleable wine. I'd love to have 5,000 gallons of it in my cellar.

*Comments after the unveiling:*

*Holt:* It has basically the same processing as the other wine we tasted earlier. We made 600 gallons of it in the developmental winery (Ref. *PW,* Nov/Dec 1985) since 1982 and it has developed a good following.

**Color/Aroma:** Pale straw. Lemon hints. Perfumy, fruity.

**Flavors:** Raisins, apricots, peaches. Floral. More fruit in mouth than in aroma. Complex.

**Balance/Finish:** Good body, balanced sweetness. Long finish.

### Great Western, New York (1983 Ice Wine)

*Flatt:* Loved it. Apricots, oxidative sherry-like flavors that are not objectionable at all, late harvest, strong botrytis characters. More Riesling-like than Vidal. More California-like style than east coast. It is excellent.

*Wykoff:* What a wine! It has all the qualities that should be found in late-harvest wine along with good acid and low alcohol.

*Holt:* It had 20% botrytis at the most. That's as much as we've ever seen and it has already been stated that good botrytis infection in Vidal is rare. Grapes were picked December 19, 1983, when the temperature was about 15°F after an overnight low of 12°F. We made 109 gallons. Brix at harvest was just over 35°.

**Color/Aroma:** Golden. Honey, peach, apricot. Evident botrytis.

**Flavors:** Riesling-like. Honey, peach, apricot richness. Caramelized overtones.

**Balance/Finish:** Very good mouthfeel. Excellent balance and finish.

### Hillebrand Estates Winery, Ontario (1984 Ice Wine)

*Howell:* Very concentrated Vidal flavors.

*Wykoff:* $SO_2$ is very high. In the U.S., I think we have to be careful of levels this high. The main difference between this wine and the last is the botrytis. There's none in this wine.

*Gamble:* Grapes were taken off the vines in late October and we let them sit until we had freezing temperatures in late December. This wine was bottled a few days ago.

*Wykoff:* What was your $SO_2$ level at bottling?

*Gstaltner:* Total was about 250 ppm and free about 90 ppm.

*Carlucci:* Why so high?

*Gstaltner:* In 3–4 weeks it will be down to 50 ppm free. Even if you don't have botrytis, $SO_2$ gets bound up with sugar.

*Wykoff:* You had to start out with very high total $SO_2$ levels. I don't understand why.

*Gstaltner:* If you have 1.0L with 100 ppm free $SO_2$, there's a total of 300 ppm. You get much more $SO_2$ from canned food.

*Wykoff:* In the U.S., you would be reaching maximum, if not exceeding allowable $SO_2$ levels. If you're bottling at 90 ppm free, you know your 250 ppm total is going to stay there.

*Gstaltner:* In Germany, with Rieslings, the law allows 350 ppm total for Beerenauslese. For Trockenbeerenauslese and Eisweins, it is even higher. We don't have problems with our levels and Canadian law.

**Color/Aroma:** Straw-gold. Apricots. Some VA. High $SO_2$.

**Flavors:** Grain taste. Apricots, peaches. Stemmy, oily. Concentrated Vidal flavors. Typical California late-harvest Riesling style.

**Balance/Finish:** Well-balanced. Bitter, stemmy. Long finish.

### Inniskillin Wines, Ontario (1984 Late Harvest)

*Wykoff:* I don't find a good balance between acid and sweetness.

*Naylor:* There's no botrytis, either.

**Color/Aroma:** Pale straw. Fresh-mown grass. Gewurztraminer character. Peaches.

**Flavors:** Herbaceous, spicy/floral.

**Balance/Finish:** Crisp. Medium-long fruit. Lacks depth and balance.

### Summary of Other Wines Tasted

In the interest of some brevity and lack of repetition, we'll just comment that other dry and semi-dry Vidal wines from 1982 and 1983 were tasted, but in general, the tasting panel agreed that the majority of these wines did not age well. Oxidation showed in both color and taste. These wines lost most of their fruit character and developed a distinct bitter aftertaste. Panel recommendation based on tasting 19 dry/semi-dry and 9 late-harvest style Vidals: Vidal in 'Germanic' table wine style should be drunk within a year of bottling.

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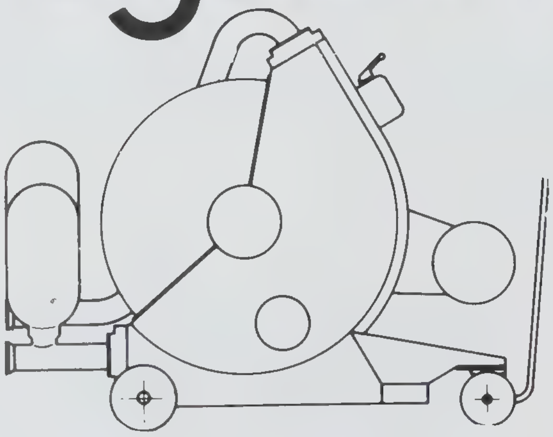

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# Managing Vidal Blanc Grapevines

*Gordon S. Howell*
*Professor of Horticulture, Michigan State University*

A revolution has marked the last 20 years in terms of cultivars used for production of wine east of the Rocky Mountains. That has been particularly true of the Great Lakes area of the northeastern United States and adjacent Canadian provinces.

Vidal blanc (syn. Vidal-256, Ugni blanc x S. 4986) is in the vanguard of that revolution. I tasted my first commercial Vidal (it was incorrectly labeled Trebbiano at that time) in 1970 from Tabor Hill Vineyards, Buchanan, MI, and was very impressed by the wine quality produced from Michigan-grown grapes.

To gain experience with the variety and determine whether that first impression was truly characteristic, Vidal blanc was included in a variety evaluation planting at the Sodus Horticultural Experiment Station near Benton Harbor, MI. From 1971 to 1977, that experience and the limited commercial experience continued to be favorable. Efforts to find experimental information on culture of the cultivar remained fruitless. Suggestions based on grower observations suggested long-cane pruning and additional crop reduction via flower cluster thinning.

To remedy this situation, it was resolved to determine the breadth of adaptability of Vidal for Michigan's climate. It also was resolved to determine the combination of training and crop control management which would give not only the best quality wine, but would also produce economically acceptable production levels, adequate vine growth and health, and maximum expression of the variety's genes for cold-hardiness. A cooperative viticultural effort was begun with Tabor Hill Vineyards in 1977 to define the optimum methods for growing Vidal blanc grapevines in Michigan.

The choice of a training system, as Smart (6) has recently shown, has an important impact on sunlight penetration into the vine canopy. It has been amply demonstrated that sunlight penetration affects bud initiation (1), fruitfulness (1,3), vine size (as measured by pruning weight) and, through subsequent application of balanced pruning concepts (4), also influences vine yield (3). Further, because cold air is heavier than warm air, training systems which position the fruiting canes nearer to the ground are going to cause those canes to be subjected to colder temperatures and, as a result, greater hazard of spring freeze damage.

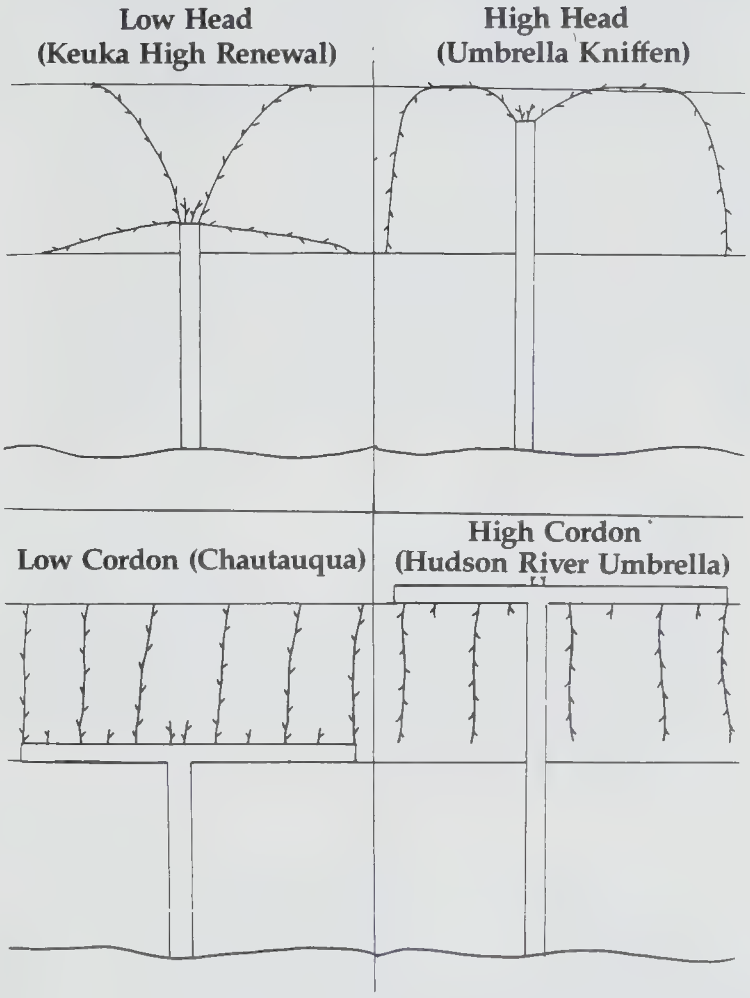

*Fig. 1*

### Experimental Approach

In 1977, an experiment was initiated in which four training systems and six different crop control strategies were employed. The four training systems (fig. 1) were:

1) Low head – a cane-pruned system of training in which the bulk of the crop is produced on long canes (10–20 nodes) originating near the lower wire of a two-wire trellis. This sys-

*Table 1. Influence of training system on vine size, yield and fruitfulness.*

| Training System | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|
| **Vine Size (Kg/Vine)** | | | | | | | |
| **Low Head** | 0.50 | 0.53 | 1.14 | 1.00bc | 1.19a | 1.17ab | 1.51b |
| **High Head** | 0.49 | 0.54 | 1.07 | 0.90c | 0.98b | 1.02c | 1.35c |
| **Low Cordon** | 0.48 | 0.47 | 1.30 | 1.22a | 1.08ab | 1.19a | 1.79a |
| **High Cordon** | 0.50 | 0.55 | 1.34 | 1.17ab | 0.93b | 1.04bc | 1.37c |
| | n.s. | n.s. | n.s. | | | | |
| **Yield (Kg/vine)** | | | | | | | |
| **Low Head** | 1.1b | 3.4b | 6.0b | 7.9c | 10.2b | 3.7b | 11.9c |
| **High Head** | 1.9ab | 4.6ab | 6.4b | 9.2bc | 10.4b | 4.3b | 13.7b |
| **Low Cordon** | 3.0ab | 4.7ab | 9.9a | 11.0ab | 12.6a | 5.2a | 15.5a |
| **High Cordon** | 3.2a | 6.1a | 9.9a | 11.7a | 12.6a | 5.1a | 15.5a |
| **Fruitfulness (Yield/Node Retained) (Kg)** | | | | | | | |
| **Low Head** | 0.08c | 0.19b | 0.17 | 0.25b | 0.29c | 0.10b | 0.35c |
| **High Head** | 0.13b | 0.28ab | 0.21 | 0.32ab | 0.35bc | 0.13ab | 0.37bc |
| **Low Cordon** | 0.19a | 0.34a | 0.22 | 0.30ab | 0.39ab | 0.14ab | 0.46a |
| **High Cordon** | 0.20a | 0.38a | 0.23 | 0.33a | 0.46a | 0.16a | 0.41ab |
| | | | n.s. | | | | |

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tem is commonly known as Keuka High Renewal.

2) High head—a cane-pruned system of training in which the bulk of the crop is produced on long canes (10–20 nodes) originating near the upper wire of a two-wire trellis. This system is commonly known as Umbrella Kniffen.

3) Low cordon—a system in which a bilateral cordon is established along the lower wire of a two-wire trellis. Fruit is borne on upright canes originating along the cordon, and pruned to 5–8 nodes so that they may be secured to the upper wire. This system is commonly known as Chautauqua.

4) High cordon—a system in which a bilateral cordon is established along the upper wire of a two-wire trellis. Fruit is borne on downward-oriented (lower 180° of the trellis) canes pruned to 8 nodes. This system is commonly known as Hudson River Umbrella.

Within each group of vines employed in a given training system, vine numbers were sufficient to employ three pruning severities (based on balanced pruning concepts):

1) 10 + 10—ten buds retained for each pound of cane prunings.

2) 15 + 15—fifteen buds retained for each pound of cane prunings.

3) 20 + 20—twenty buds retained for each pound of cane prunings. In addition, vines were either flower cluster thinned to one basal cluster/shoot or not thinned.

Upon completion of the designed experiment, there were 24 treatment combinations (4 training systems X 3 pruning severities X 2 thinning treatments).

### Factors Measured

In each year of the study, the following data were either collected or calculated directly from collected data: 1) vine size; 2) yield/vine; 3) number of nodes retained at pruning; 4) cluster weight; 5) yield/node retained; 6) berry weight; 7) berries/cluster; 8) fruit °Brix; 9) fruit pH; and 10) fruit total acidity.

In addition, several years of data were collected on shoot origin on different vines. Shoots originating from nodes on canes retained at pruning were called ‘count shoots’, and those arising from other sites were deemed ‘non-count shoots’. Finally, because Vidal blanc would be classed as medium-hardy in Michigan, counts were made each spring to give the total number of shoots/vine, the number of non-count shoots/vine, and the number of count nodes producing no shoots (blind nodes).

Appropriate statistical tools were employed to determine whether observed differences might have occurred by chance.

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*Table 2. Influence of training system on brix, pH, and total acidity.*

| Training System | 10–4<br>1977 | 10–11<br>1978 | 10–9<br>1979 | 10–22<br>1980 | 10–21<br>1981 | 10–12<br>1982 | 10–11<br>1983 |
|---|---|---|---|---|---|---|---|
| | | | Brix | | | | |
| Low Head | 22.6 | 20.8ab | 20.5 | 21.0 | 19.6 | 21.3 | 20.9a |
| High Head | 23.0 | 20.2ab | 20.2 | 20.3 | 19.4 | 20.3 | 20.6ab |
| Low Cordon | 23.5 | 21.9a | 20.4 | 21.1 | 19.3 | 21.7 | 20.2ab |
| High Cordon | 23.0 | 19.3b | 19.3 | 20.3 | 18.7 | 21.1 | 19.6b |
| | n.s. | | n.s. | n.s. | n.s. | n.s. | |
| | | | Acidity (pH) | | | | |
| Low Head | 3.38 | 3.50b | 3.25 | 3.30 | 3.34 | 3.23b | 3.43a |
| High Head | 3.42 | 3.45c | 3.27 | 3.32 | 3.34 | 3.37a | 3.40ab |
| Low Cordon | 3.39 | 3.55a | 3.21 | 3.26 | 3.33 | 3.39a | 3.39ab |
| High Cordon | 3.42 | 3.44c | 3.21 | 3.26 | 3.32 | 3.39a | 3.35b |
| | n.s. | | n.s. | n.s. | n.s. | | |
| | | | Total Acid | | | | |
| Low Head | 0.86a | 0.87 | 0.98 | 0.97 | 1.12 | 0.74c | 0.82 |
| High Head | 0.84a | 0.86 | 1.04 | 0.95 | 1.13 | 0.90a | 0.84 |
| Low Cordon | 0.74b | 0.88 | 0.99 | 1.01 | 1.12 | 0.91a | 0.82 |
| High Cordon | 0.79b | 0.86 | 1.05 | 0.99 | 1.14 | 0.86b | 0.85 |
| | | n.s. | n.s. | n.s. | n.s. | | n.s. |

### Findings of the Seven-Year Study (1977–1983)

*Training systems.* The two cordon-trained systems were superior to the two head-pruned systems in vine size maintenance, yield, and yield/node retained (Table 1). For other yield and fruit quality indices, differences were small. Higher-yielding vines had slightly reduced °Brix, lower pH, and higher total acidity (Table 2). These differences among training systems were well within the acceptable range of desirable maturity for Vidal blanc as reported by Gallander (2) in Ohio.

Training system had a dramatic influence on fruit distribution based on count and non-count shoots. Cordon-trained vines ranged between 20 and 25% higher in yield from non-count shoots. For example, in one year, high cordon-trained vines produced 23% of its yield from non-count shoots while low head-trained vines produced only 7% from similar shoots. Although yield was strongly influenced, fruit maturity was not. Brix was inferior on non-count fruit only in 1981. The pH and total acidity differences were trivial.

Training system influence on the ability of vines to compensate for winter damage to buds in count positions was striking. The data (Table 3) show year-to-year differences in blind node number as might be anticipated. There were no differences in loss across the training treatments in any single year. The ability of cordon-trained vines to produce larger numbers of fruitful non-count shoots more than compensated for the winter losses in 1980 and 1981. A severe winter freeze in January 1982 was even more instructive. High cordon-trained vines had nearly double the number of shoots as low head-trained vines (Table 3) and yield was also correspondingly higher (Table 1).

For reasons of yield, vine size maintenance, minimal reduction in maturity, and recovery from winter damage to buds, the system of choice is the high cordon (Hudson River Umbrella).

*Crop control.* In nearly every year of the study, the pruning severity effect was clear (Table 4). Severe pruning (10 + 10) produced highest vine size. Yield was less clear. Until 1982, severe pruning yielded least crop. In 1982, there were no differences, and in 1983, 10 + 10 pruned vines had highest yield (likely due to gradual improvement in vine size). Fruit maturity indices followed cropping level—more crop meant lower Brix and pH, and higher total acidities.

Thinning proved to be a desirable practice. Increased severity of pruning could not lower crop load sufficiently to eliminate the necessity to flower cluster thin. Research in New York (5) on Seyval, which is also a very large clustered variety, showed a similar result.

Choosing appropriate pruning severity is difficult and the result is only as good as the premise on which it is based. Data from this study shows cluster weight to be about ½ pound. Vines were able to maintain vine size even as yields were increasing. Table 6 was organized based on these data to present the approach for selecting a pruning severity for Vidal.

This approach considers the relationship between vine size, projected yield that a given vine size can tolerate without vine size reduction, cluster weight, and percentage of crop produced by count and non-count shoots. The data indicate that high cordon-trained vines should be pruned with a severity of 15 + 10 and flower cluster thinning should be imposed as an adjunct to pruning for adequate crop control.

### Conclusions

1. High cordon is the training system of choice.
2. 15 + 10 plus flower cluster thinning is the crop control approach of choice.

### Acknowledgements

Over the years, I have been fortunate to have good, bright students working with me on this research and they deserve recognition. They are Kendra Anderson, Hector Escamilla,

*Table 3. Influence of training system on blind nodes and total shoots*

| | # Blind Nodes as % of Count | | | Total Shoots as % of Count Nodes | | | Non-Count Shoots as % of Total Shoots | | |
|---|---|---|---|---|---|---|---|---|---|
| Training System | 1980 | 1981 | 1982 | 1980 | 1981 | 1982 | 1980 | 1981 | 1982 |
| Low Head | 28 | 32 | 56 | 100b | 87b | 59b | 10b | 15b | 13c |
| High Head | 24 | 35 | 49 | 95b | 94ab | 67ab | 14b | 19b | 18c |
| Low Cordon | 19 | 30 | 51 | 122a | 116ab | 69ab | 24a | 32a | 28b |
| High Cordon | 27 | 34 | 53 | 122a | 125a | 82a | 27a | 36a | 43a |
| | n.s. | n.s. | n.s. | | | | | | |

*Table 4. Influence of pruning severity on yield and fruit quality indices.*

| Pruning Severity | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|
| | | | **Vine Size (Kg/Vine)** | | | | |
| 10 + 10 | 0.52 | 0.50 | 1.27 | 1.22a | 1.12a | 1.39a | 1.63a |
| 15 + 15 | 0.55 | 0.53 | 1.15 | 0.98b | 1.01b | 0.99b | 1.35c |
| 20 + 20 | 0.57 | 0.54 | 1.12 | 1.03b | 1.00b | 1.08b | 1.52b |
| | n.s. | n.s. | n.s. | | | | |
| | | | **Yield (Kg/Vine)** | | | | |
| 10 + 10 | 2.0 | 4.0 | 6.1b | 9.4 | 9.6c | 5.3 | 16.4a |
| 15 + 15 | 2.6 | 4.6 | 7.1ab | 10.1 | 11.6b | 3.7 | 14.4b |
| 20 + 20 | 2.2 | 5.4 | 9.5a | 10.5 | 13.2 | 5.5 | 14.6b |
| | n.s. | n.s. | | n.s. | | n.s. | |
| | | | **Brix** | | | | |
| 10 + 10 | 23.2 | 21.1a | 20.3a | 21.7a | 19.7a | 20.9 | 22.1a |
| 15 + 15 | 22.8 | 20.5ab | 20.6a | 21.1a | 19.2ab | 20.5 | 20.2b |
| 20 + 20 | 23.1 | 19.9b | 19.4b | 19.3b | 18.9b | 21.1 | 19.8b |
| | n.s. | | | | | n.s. | |
| | | | **pH** | | | | |
| 10 + 10 | 3.40 | 3.49 | 3.25 | 3.30a | 3.35a | 3.38a | 3.41a |
| 15 + 15 | 3.41 | 3.50 | 3.24 | 3.32a | 3.32b | 3.37a | 3.38b |
| 20 + 20 | 3.39 | 3.46 | 3.22 | 3.25b | 3.32b | 3.29b | 3.37b |
| | n.s. | n.s. | n.s. | | | | |
| | | | **Total Acid** | | | | |
| 10 + 10 | 0.84 | 0.90 | 1.04 | 0.95ab | 1.15a | 0.88a | 0.84 |
| 15 + 15 | 0.79 | 0.84 | 1.00 | 0.91b | 1.12ab | 0.78b | 0.81 |
| 20 + 20 | 0.79 | 0.86 | 1.01 | 1.00a | 1.11b | 0.75b | 0.86 |
| | n.s. | n.s. | n.s. | | | | n.s. |

David Johnson, Timothy Mansfield, David Miller, Keith Striegler, and James Wolpert.

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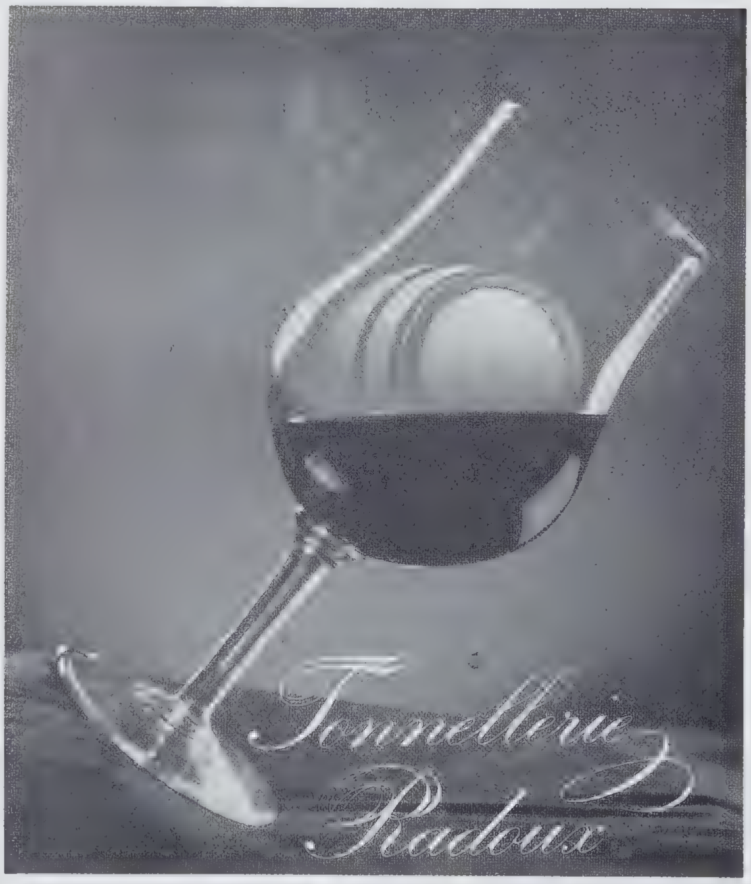

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Appreciation is also due to Tabor Hill Vineyards, Buchanan, MI, for allowing us to do this study in their vineyard.

*Table 5. Determining a pruning severity for Vidal blanc grapevines based on estimated production a vine can tolerate without reduction in vine size.*

| Cane Prunings | | Yield | | # Clusters based on | # Nodes Retained* High Cordon, Thinned |
|---|---|---|---|---|---|
| (Kg/vine) | (lbs) | Kg/HA | Tons/Acre | .227 Kg or 0.5 lb | Grapevine |
| 0.454 | 1 | 5993 | 3 | 20 | 15 |
| 0.908 | 2 | 9988 | 5 | 33 | 25 |
| 1.362 | 3 | 13983 | 7 | 47 | 35 |
| 1.816 | 4 | 17978 | 9 | 60 | 45 |

** Based on 25% of crop from non-count position. Pruning severity of choice is 15 + 10 coupled with flower cluster thinning.*

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# *What's Available in Computer Software?*

*Once upon a time there was a little old winemaker. He had more vineyards than his neighbors and no debts, and merchants came from miles around to buy his wine. He was a happy man.*

*One day he said to his children, "Listen carefully. I grow good grapes. I make fine wine. I've always done the same thing. When you follow in my footsteps, do not change a thing! Then you too will be successful and happy."*

*When the winemaker died, his children did as they were taught, but in time the vines began to yield less and less, the wine grew more and more acidic, and the merchants stopped coming. "What did we do wrong?" they cried. "We've not changed anything!"*

*Moral—or mangled metaphor? Changing horses in mid-block may prevent sour grapes.*

* * *

Today the catch phrase, *vis-a-vis* change, is high-tech, and computer management of vineyards and wineries is high-tech indeed. Whether you are pro or con, computers are here to stay and can prove valuable for a number of reasons, from soil analysis to harvest tonnage predictions to blending trials to marketing costs.

Computer data files do make record-keeping easier and more efficient. They make analyses and comparisons possible, predictions more reliable, and most often take the guesswork out of the 'when, where and how many' questions.

*Practical Winery* does not pretend to be an expert as to the appropriate computer software package that will meet your growth needs, but in this Purchasing Guide we offer many available choices. If computerized changes are in your future, please contact the following and mention having seen their information in *PW.* —Susan Malone

## AGRICOMP
*Ventura, CA*

AgriComp offers the *T200 Computer Control System* to bring measurements of vineyard conditions from a large set of widely distributed sensors (soil moisture and chemistry, weather, etc.) and controllers (irrigation valves, pumps, windmachines, etc.) to a central location. There it processes the information and activates control devices automatically either at scheduled times or according to rules set by the grower. The system includes completely integrated hardware and software, and carries out crop production using a scientific approach.

The *T200 System* provides better information and tighter control for the vineyard manager. It is a definitive move toward automation that leads to more efficient use of labor and thus lower labor costs. The field computer station of the *T200 System* includes a personal computer with dual floppy disk drives and video monitor; an optional printer; and a main transceiver, the hardware link between the computer and the field sensors and controllers.

Several software modules are included in the *T200* package. The basic module is called *Datalogging and Display.* This program interrogates all sensors and controllers in the field; shows on the monitor screen up-to-the-minute conditions of the vineyard superimposed on a graphical representation of the ranch; and periodically stores the sensor values and controller status on diskette. The stored data and parameters such as degree days and evaporation rates, calculated by the computer from this data, can be plotted on the screen or the printer. This information assists the grower in analyzing trends, making projections and developing control strategies for his operation.

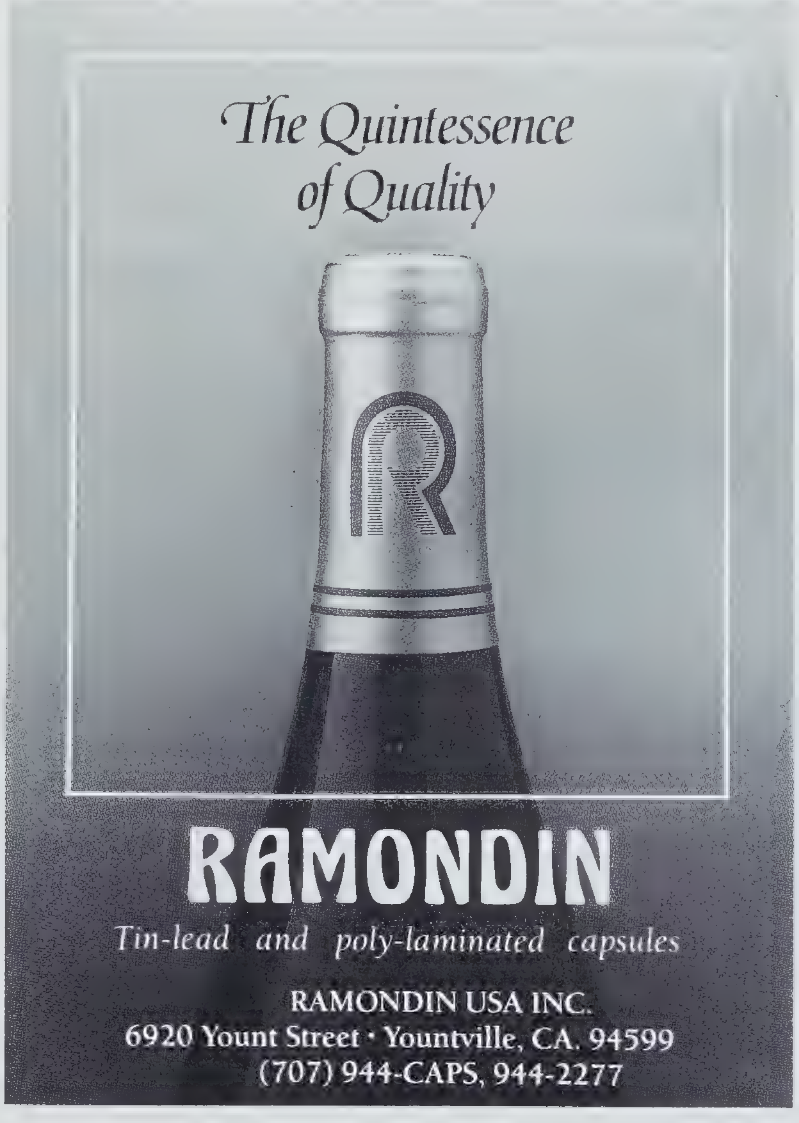
Another software module, *Schedule Maker,* allows the grower to create a schedule of events to open or shut electrical devices such as irrigation valves, as well as to start up or shut down machinery such as pumps and windmachines. It will also set conditions on the execution of these events. One option built into the program, called *Sensor Override,* uses real time, on-site data in the decision to carry out a scheduled event. For example, scheduled irrigation of a block occurs only on the condition that the soil suction is above a threshold value (sufficiently dry soil).

Another option of the *Schedule Maker* module, called *Main Valve Control*, prevents overpressure in pipelines automatically by allowing the main valve to be open only if the number of open submain or block valves is equal to or greater than the lower limit specified. These features begin to demonstrate the superior performance of a software-driven computer control system over that of conventional timers.

The most powerful implementation of computer control is offered in the *Fully Automated Program*. In this mode, irrigation or other processes such as frost protection proceed automatically in response to the actual needs of the crop. Irrigation, for example, is accomplished by the control system in the following way: the computer gathers the soil moisture data from all field stations (once each minute or so), decides on the basis of this information and grower-specified rules if any blocks need irrigation; activates the appropriate solenoid valve or valves; and carries out the irrigation by applying water for a time interval predetermined by the grower.

If, after start-up, the flow and pressure values of the irrigation system do not settle to an acceptable range of values, then irrigation is terminated and a malfunction is reported at the monitor. This program was recently upgraded to allow sequences of events to be triggered by conditions.

Following are some features of the *T200*:



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3) An instruction window on the screen that reviews the procedures for user interaction with the program;

4) Plotting of data and calculated parameters over a time interval (that can range from hours to weeks) on the screen or the printer;

5) Simple editors that allow the grower to change the system configuration, build a schedule of events or set up control procedures, again using a natural language.

*Inquiries to:* AgriComp, 2171B Portola Rd., Ventura, CA 93003, (805) 658-7688.

SEE OUR AD PAGE 31

### AGRIVISION SYSTEMS

*Hopland, CA*

The Agrivision *Vineyard Management System* is a comprehensive menu-driven computer software package exclusively for vineyard application. Agrivision is designed for use with the Apple Macintosh 512 with external drive or the updated Macintosh Plus. It requires Business Filevision, the graphic database from Telos. Agrivision is made up of seven parts which can be installed separately or as a system.

The *Viticulture Component* consists of a general information file on variety, rootstock, number of vines, spacing, dates planted, etc. Another file helps plan, track, cost and record all vine management practices including pruning, cultivation and thinning. It calculates material and irrigation requirements, costs of labor, equipment, etc. Another section records weather statistics.

A row mapping file stores block and row numbers, spacing, orientation, etc. This is useful for calculating piece work, trellis and irrigation development and vine inventories. A nursery inventory includes records of rootstock, budwood and bench grafts.

Material purchasing is assisted by calculating and comparing material costs and requirements for up to eight different materials at the same time. This assists in purchase of fertilizers, pesticides, trellis and irrigation materials, etc.

The *Pest Management Component* simplifies pest control operations by using built-in formulas to calculate information such as nozzle calibration, material cost and requirements, labor and equipment cost. Pest control histories for each block are stored for quick examination and analysis. Pests are catalogued by types with discovery dates, location, etc. recorded. Pest flareups are tracked visually on a plot map. This component also includes a pesticide inventory listing, dates purchased, toxicity level, shelf life, etc.

The *Harvest Component* records havest dates and yield by block, calculates yield and revenue/block, acre, vine and space. Yields can be represented visually on the plot map. It also stores all weigh tag information and calculates net weight in tons, carrier cost, harvest cost, and net value automatically.

The *Soil Map Component* charts and compares different soil types, which is useful for varietal selection in new vineyards as well as diagnosing soil-related variations in quality and production in existing vineyards.

The *Lab Component* records analysis of tissue, soil, fruit and must to help keep track of nutrient availability and product quality. Visual analysis on the plot map is available, and cross-correlating between analyses is possible. Experimental projects are tracked for future use.

Agrivision also includes equipment files for inventory listings, maintenance records, engine and fuel logs, as well as office files for payroll records, check printing, sales and expenditures.

*Inquiries to:* Agrivision Systems, PO Box 675, Hopland, CA 95449, (707) 744-1320.

SEE OUR AD PAGE 40

### BILL AMATNEEK/Data Base Associates

*Mill Valley, CA*

The *Tracker* is a stand-alone, menu-driven program which assists winemakers in tracking lab analyses made of bulk wine on a blend-by-blend basis. The winemaker will be able to enter the results of lab analyses in any order and report them by blend, and within blend by date and time of day. Results of six

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major tests—must temperature, alcohol, pH, TA, Brix, and free $SO_2$—as well as the results of any other tests of choice, will be reported in tabular format; each major test type will have its own column, and results will read down the page, showing at a glance the progress of bulk wines.

The *Tracker's* opening screen will allow the winemaker to enter a new analysis, edit or delete an existing analysis, and report on analyses. The analysis Entry screen allows easy entry of blend name, tank, date, and time of readings, the six major test results mentioned above, and one other test/result of choice.

The Reports screen will ask the user to enter the blend to be reported; if no single blend is designated, all outstanding blends will be reported. The column-oriented report format will allow the winemaker to see at a glance the progress of each blend. All reports can be seen on the screen or printed.

The *Tracker* runs on the IBM PC, XT, AT and true compatibles with 256k RAM, DOS 2.0 or greater, and two floppy disk drives, or one hard disk and one floppy drive. Price is $250.

*Inquiries to:* Bill Amatneek/Data Base Associates, 193 Miller Ave., Ste. 2, Mill Valley, CA 94941, (415) 388-8024.

SEE OUR AD PAGE 13

### CUSTOM COMPUTER SERVICES, INC.

*Fresno, CA*

Custom Computer Services, Inc. (CCS) offers cost-effective computer system solutions to grapegrowers and winemakers. The *Vintners' Industry Package (VIP)* combines both hardware and software. A staff of industry professionals is available to support *VIP*. Two major subsystem's are available: *Harvest Reporting* and *Order Entry*.

The *Harvest Reporting System* will answer questions of grape suppliers on demand and provide comparison of supplier limits via up-to-the-minute availability of grapes received. The system will eliminate errors before records are updated using 'on demand weight received' reports by variety and grower.

In addition, the *Harvest Reporting System* lessens the load on the clerical staff by the collection of daily weigh tag information. It will also use crush production by tank to ease the effort of supplying governmental reports of variety percentages by tank. Finally, the *Harvest Reporting System* will generate grower settlements, status, and checks to automatically eliminate hours of costly clerical labor, increase flexibility in payment methods, and give timely grower information.

The *Order Entry System* will capture order information once and will allow changes as it goes through the system. The system will control case goods inventory by oldest or specified inventory item, and will use different invoice types with free-form text capabilities. This is especially useful on export and bulk orders. The system also keeps track of who is buying what, where, and how much and who is selling it via sales analysis.

In addition, the *Order Entry System* will spot slow payers by using accounts receivable delinquency reports, and makes posting cash receipts simpler via a variety of receipt methods. It also keeps track of when, how much, and for which order to bottle through the use of shipment scheduling. Finally, it uses a variety of time periods to suit individual methods of production.

CCS also offers a full complement of financial accounting and control software. Each module may be licensed and used separately or modules may be integrated together. CCS is headquartered in Fresno, CA, with branch offices in Bakersfield, Visalia, and Merced.

*Inquiries to:* Custom Computer Services, Inc., 2210 San Joaquin, Fresno, CA 93721, (209) 486-4750.

SEE OUR AD PAGE 38

### DATA CONSULTING ASSOCIATES

*Occidental, CA*

Data Consulting Associates, in conjunction with Gulson & Associates, have two software packages written specifically for the wine industry. They are the *Winery Information Management System* and the *Winery Production Management System*. These are software packages for wineries with a volume between 10,000 and 125,000 cases/year.

The hardware environment for these software packages is the IBM PC XT or AT. If your winery outgrows these systems, there is a growth path provided for expansion to an IBM S/36 or S/38.

The *Winery Information Management System* has seven component parts: Case Goods Inventory, Order Entry/Invoicing, Accounts Receivable, Sales Analysis, Accounts Payable, and General Ledger. It is a single-entry system with data flowing from one component to another. It encompasses day-to-day business operations. From these components, management receives an overview of the entire marketing, inventory, and financial status.

The *Winery Production Management System* has seven component parts: Crush and Invoice System, Blend/Percent Composition/History System, Tank Contents System, Wine Chemistry System, Barrel Management System, Cost Analysis System, and Government Forms System. It is a menu-driven system which provides a winery with automated information management of the winemaking activity.

The *Winery Production Management System* contains all the information necessary for tracking a wine from bottled product back to the growers. It contains the percent composition, chemistry, and ingredients of every blend in the winery, contents of all tanks, and the life history of all barrels. The cost of a must or wine at any stage of production is immediately available. Finally, government forms may be produced as a by-product of the system.

The two systems can be integrated so that information from the vineyard to the bottle can be passed forward to the Case Goods Inventory System and finally through the accounting functions to General Ledger.

*Inquiries to:* Data Consulting Associates, 18000 Coleman Valley Rd., Occidental, CA 95465, (707) 874-3067.

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*WineMaster* is a computer production program for both large and small wineries. It handles the cellar's record-keeping chores while providing faster, more thorough access to information the winemaker needs. In addition, the program gives the financial officers of the winery an exact, current breakdown of the value of bulk wine inventory.

*WineMaster* is divided into four parts. One part, maintenance, involves original entry of tank information and includes descriptions of tanks and the characteristics of the wines they contain. This information is entered when the system is first set up. Data such as types and sizes of tanks or barrels, the blend numbers of the wines within them, their raw material cost, and vital information about the wines themselves (varietal compostion, percentage from each vintage, breakdown by growers, details of appellations, and complete chemistry) is entered. *WineMaster* allows the winemaker flexibility in deciding the degree of detail the system will track.

Another part, activities, records all cellar processes. In this part, the winemaker records all the activities involved in winemaking: rackings, finings, transfers, blends, and chemical additions are recorded to create a history of the blend or tank. As movements are made, *WineMaster* updates the information on the composition of the wine and its cost automatically. Furthermore, as chemicals are added to the wines, their costs are added to the overall costs of the wines. All procedures affecting BATF reports are recorded for compilation at the end of the month.

The inquiry section provides easy access to all information. It is designed to allow the winemaker to ask questions of the system: these can be either about the wines themselves or about the processes which have been performed on them in the past. The winemaker can find out, for example, which barrel lots have been topped off in the last two weeks; which blends contain Chardonnay and have a pH over 3.2; which stainless steel 50,000-gallon tanks are empty; which wines have a raw material cost under $1.75/gallon, and so on.

The reports section produces formal printouts of inventory and other data. All standard reports are available: complete bulk inventory breakdown by tanks or blends; complete history of all activities by tanks or blends; bulk wine portion of BATF 702 form; history of chemical analysis; and cost breakdown by blend.

System requirements for *WineMaster* are IBM PC or compatible with a hard disk.

*Inquiries to:* Pickering Winery Supply, 1300 22nd St., San Francisco, CA 94107, (415) 821-2400.

SEE OUR AD PAGE 20

### JAMES VAHL

*St. Helena, CA*

James Vahl supplies wineries with a software package entitled *The Winemaker's Database*. This software helps winemakers manage information on every aspect of their winemaking from grape receipt to bottling. *The Winemaker's Database* is suitable for small- to medium-sized wineries and is currently installed in wineries of up to 3,000,000-gallon capacity.

The software is available in either dBASE II or dBASE III+ and runs on any computer which can support either one of these database programs. This includes almost all personal computers. A hard disk is required.

*The Winemaker's Database* is also available in a multi-user version which runs on the Novell network. Upgrade from the single-user to the network version can be done at any time as the winery's needs dictate. James Vahl provides full network support and can also supply network hardware and software.

Compositional and cost information are automatically maintained during all wine movements, with adjustments for gains and losses. The bulk wine portion of the BATF 702 form can be generated at the end of each month. Histories of tanks, blends, individual pieces of equipment or even individual barrels can be easily generated. A trial blend program is provided.

Features of the package include: flexible and powerful inquiry into the information; intuitive and consistent menus for ease of use; complete and automatic audit trail back to primary records from any point in the winemaking process; automatic 'carry forward' error correction; no limits on the number of varieties, growers, types of winery movements, etc.; easily adaptable to specific requirements; and source code provided.

See the feature story on *The Winemaker's Database* in the November/December 1986 *Practical Winery*.

*Inquiries to:* James Vahl, Ph.D., 1361 St. James Dr., St. Helena, CA 94574, (707) 963-5423.

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Classic Cases . . . . . 6
Classified Ads . . . . . 40
The Compleat Winemaker . . . . . 38
Criveller Co. . . . . . 15
Custom Computer Service . . . . . 38
Custom Cooperage . . . . . 15
Data Consulting Associates, Inc. . . . . . 16
ENCORE! . . . . . 40
Estate Bottling . . . . . 40
E T S . . . . . 8
Fischer Winery Equipment . . . . . 36 + 37
Genencor, Inc. . . . . . 48
Groskopf Warehouse . . . . . 12
JV Northwest Engineering . . . . . 14
Kings County Truck Line . . . . . 18
KLR Machines, Inc. . . . . . 35
Mel Knox . . . . . 10
Levy Systems . . . . . 21
Pickering Winery Supply . . . . . 20
Power Refrigeration Co. . . . . . 47
Power Refrigeration Parts Co. . . . . . 45
Process Engineers, Inc. . . . . . 19
Prospero's Equipment Corp. . . . . . 33
Ramondin . . . . . 43
RLS Equipment Co., Inc. . . . . . 40
Scott Laboratories, Inc. . . . . . 3
SEN Machines Inc. . . . . . 7
Tonnellerie Mercier . . . . . 9
Tonnellerie Radoux . . . . . 42
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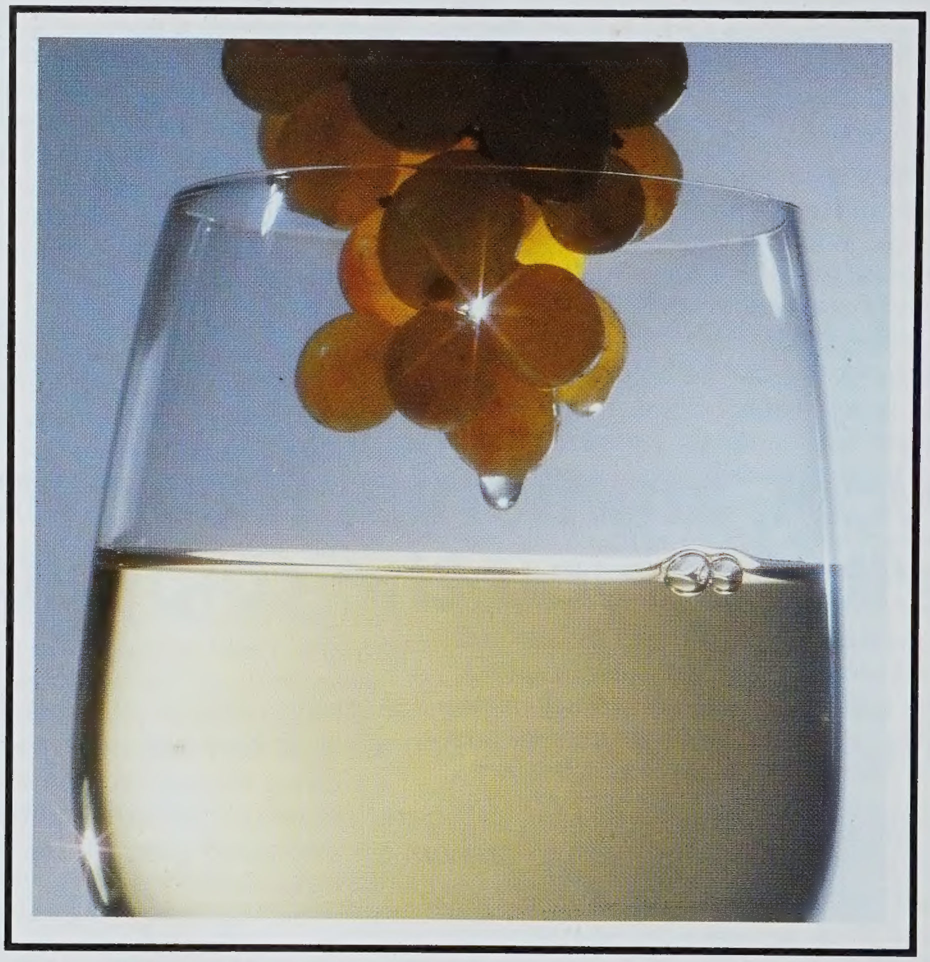

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